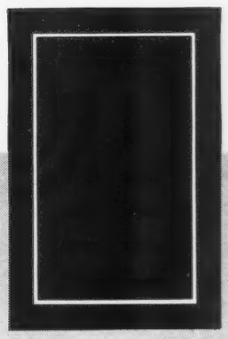
NOVEMBER 1947



Engineer

you'll be glad you waited a little longer *
for Harris Offset Presses, Seybold Paper Cutters
and other Harris-Seybold graphic arts equipment.

* 5-10-15 years from now, after your Harris-Seybold equipment has paid for itself, probably several times over, in steady performance and low-cost upkeep . . . and when, if you are willing to part with it, there will still be a demand for it in the rebuilt machinery field . . . you'll feel more than repaid for "waiting a little longer" today.

Printers, lithographers and binders who have had experience with Harris Offset Presses or Seybold Paper Cutters know this. That is why many of them are still waiting for Harris-Seybold equipment—even though some have been offered earlier deliveries from other manufacturers.

Today, delivery of certain Harris-Seybold equipment is easing up a bit. Your order for a forty-inch cutter, multiple-spindle drilling machine, or die press can now be filled reasonably soon. You may also be able to get delivery on offset presses and larger paper cutters sooner than you think.

We'll be glad to send literature and up-to-date information on the size and model you want. Why not write for it today?

HARRIS PRESSES • SEYBOLD CUTTERS • OTHER GRAPHIC ARTS EQUIPMENT . . . . .

VACUUM DOES IT!

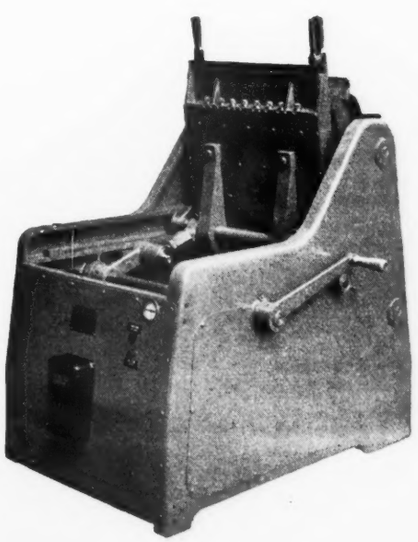
If you are installing a new flat casting box, get one equipped with vacuum, and get it from Sta-Hi.

Sta-Hi pioneered in the application of vacuum to stereotype equipment almost 20 years ago and since then has been building machinery that is first choice of the printing industry.

The new Sta-Hi Vacuum Flat Casting Box is the last word in efficiency, ease of operation and precision results. It "vacuum-casts" any size mat from the smallest up to full-page eight columns. A set of shell gauges and a set of type high gauges are included as standard equipment.

And delivery can be made in about two weeks after your order is received! Write for complete details.

STA-HI



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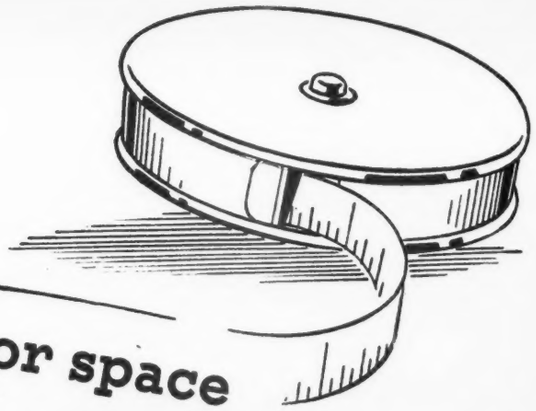
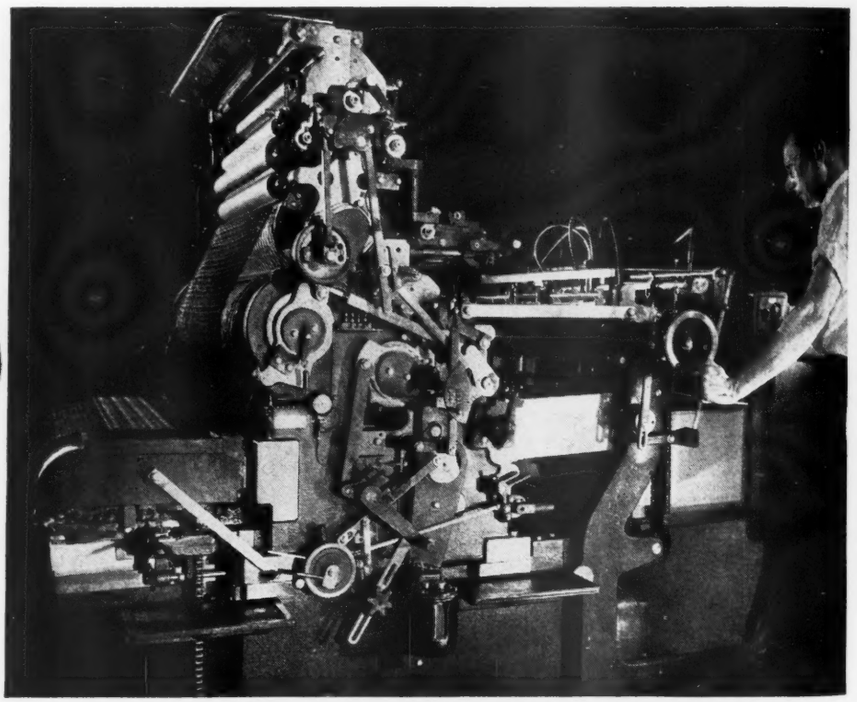


takes nearly 1/5 less floor space



The NEW

Improved

ATF BIG CHIEF OFFSET PRESS

More than seven square feet are saved by putting the main drive motor under the press. Adding a step plate at the right of the delivery and a hand rail around the ink fountain increase accessibility. So does hinging the inner conveyor paper guides . . . makes it easier to take paper off the feed table. Spring caps and hold-downs on the top clamping rollers . . . hardened seats for plate-adjusting set screws . . . inside cylinder gears ground and all others shaved . . . these all make for greater accuracy. There are many more new features that make the ATF Big Chief unique for the finest quality production at the utmost economy of time and labor.

The ATF Big Chief, Chief, and Little Chief are made to handle run-of-the-hook work in sheet sizes up to 22½x29, 17½x22½, and 14x20 inches, respectively. ATF also has modern and efficient platemaking equipment and its own precision cameras . . . everything you need from darkroom to pressroom.

Ask your ATF Salesman, or write to us for commercial samples of actual runs on the ATF Chiefs.

American Type Founders

200 Elmora Avenue, Elizabeth B, New Jersey

Relief Embossing at *Printing Press Speed* with GAS

Gas-fired tunnel radiant burner through which printed cards pass to complete the embossing process.

Battery of Gas-fired tunnel burners with conveying systems. Note varying lengths of tunnels for different sized forms.

WHEN you finger that nicely embossed business-card the salesman offers you'll probably find it's one of those attractive cards which simulate an engraved texture by the heat-polymerization of ink.

Relief Printing Corporation, Boston, Massachusetts, pioneer manufacturer of embossed business cards, stationery, professional announcements, has developed a real production-line method for heat processing the ink *at press speed*. It's a simple process, too, for Relief Printing Corporation uses GAS and modern Gas Equipment to obtain the high temperatures required for rapid changes in the chemical inks.

Automatic flat bed presses feed the printed cards to a hopper which spreads the powdered ink on the card and removes the excess powder by suction. Continuous chain conveyors carry the cards through a three-second polymerization cycle under Gas-fired radiant tunnel burners operated at 1600° where the powdered ink is transformed into an embossed surface closely resembling engraving.

GAS and modern Gas Equipment are the ideal production-line tools for every printing and publishing function requiring heat. Your local Gas Company will assist you in selecting the proper Gas Equipment for any production heating requirement.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

AMERICAN GAS ASSOCIATION
420 LEXINGTON AVENUE, NEW YORK 17, N.Y.

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of

PRINTERS' ROLLERS

COMPOSITION • VULCANIZED OIL

RUBBER and PLASTIC

are being revised

UPWARD

and will apply to all orders

filled after the revision is completed

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MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

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CHICAGO 5
CLEVELAND 14
DALLAS 1
DES MOINES 2
DETROIT 10
HOUSTON 6
INDIANAPOLIS 2
KALAMAZOO 12
KANSAS CITY 6
MINNEAPOLIS 15
NASHVILLE 3
OKLAHOMA CITY 6
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1847-1947
ONE HUNDRED YEARS OF ROLLER MAKING

PRINTING EQUIPMENT *Engineer*

Volume 75 Number 2

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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Printed in U. S. A.

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NEW METHOD OF ELIMINATING STATIC
operates continuously and efficiently without power

Decreases hazards, increases production, decreases waste . . . operates without cost . . . requires no maintenance . . . lasts a lifetime

The Ionotron Static Eliminator* employs continuous alpha radiation to ionize the air in zones where static electricity is a production problem or fire hazard. The ionized air bleeds-off the static charges before they can cause trouble. Sheet control is improved in feeders. Paper delivers properly. Jogging becomes uniform. And often presses can be run at higher speeds with less waste!

NO POWER CONNECTION—The Ionotron Static Eliminator not only has no moving parts – it requires no power connection nor accessory apparatus, and there's no operating cost. The Ionotron consists of a continuous alpha-ray source mounted in a bar-type housing. Units can be furnished in any required length for rotary, flat bed, offset, or roto presses, and for various types of bindery equipment.

EFFECTIVE FOR MANY MATERIALS — The Ionotron reduces static charges in paper, foil, fabric, and other materials. It is especially valuable in the printing of acetate, cellophane, or lightweight stocks, with which the worst static problems are encountered. The cost of an Ionotron Static Eliminator, installed, is low in relation to the savings it provides.

IONOTRON
US RADIUM
STATIC ELIMINATOR

**Trade-mark Reg. U. S. Pat. Off.*

SEND COUPON FOR SPECIFIC INFORMATION!

Dept. K7, U. S. Radium Corp.
535 Pearl Street, New York 7, N. Y.

I want to know how the Ionotron Static Eliminator can solve static problems in my shop. This inquiry does not obligate me in any way.

Name_____ Title_____
Company_____
Address_____
City_____ State_____
Type of press_____ No._____
Max. web or sheet size_____
Type of delivery_____
Type of static eliminator now used_____

Kodak

THE KODAK *Fluorescence* PROCESS

A greatly improved method for the preparation and photomechanical reproduction of wash drawings and water-color sketches, the Kodak Fluorescence Process offers significant advantages of quality and economy to the commercial artist, the photomechanical operator, and the printing buyer.

... For the artist, the set of twenty Kodak Fluorescent Water Colors provides a medium for the preparation of finished art which fulfills, in every detail, the requirements of four-color process photomechanical reproduction. All twenty Kodak Fluorescent Water Colors can be readily reproduced by standard process printing inks.

... For the photomechanical operator, the Kodak Fluorescence Process provides photographic color correction in the process camera, making possible the production of balanced sets of four-color process plates requiring a minimum amount of hand color correction.

... For the printing buyer, the Kodak Fluorescence Process provides artwork capable of faithful reproduction and assures the fast, economical production of top-quality photomechanical four-color process plates.

... Sets of Kodak Fluorescent Water Colors and information concerning the Kodak Fluorescence Process are available from your Kodak Graphic Arts dealer. Fill out this coupon and mail it today for your copy of the "Kodak Fluorescence Process" booklet.

Graphic Arts Division

EASTMAN KODAK COMPANY

Rochester 4, N. Y.

Kodak Fluorescent Water Colors can be used by any experienced commercial artist, requiring little change in technique.

Copy, mounted on the copyboard, is illuminated with a controlled mixture of ultraviolet and white light through the filter panels on the Kodak Copyboard Hood.

The Kodak Fluorescence Process assures fast, economical press production, faithfully reproducing the original copy.

EASTMAN KODAK COMPANY, ROCHESTER 4, N. Y.

Please send me my copy of the "Kodak Fluorescence Process" booklet.

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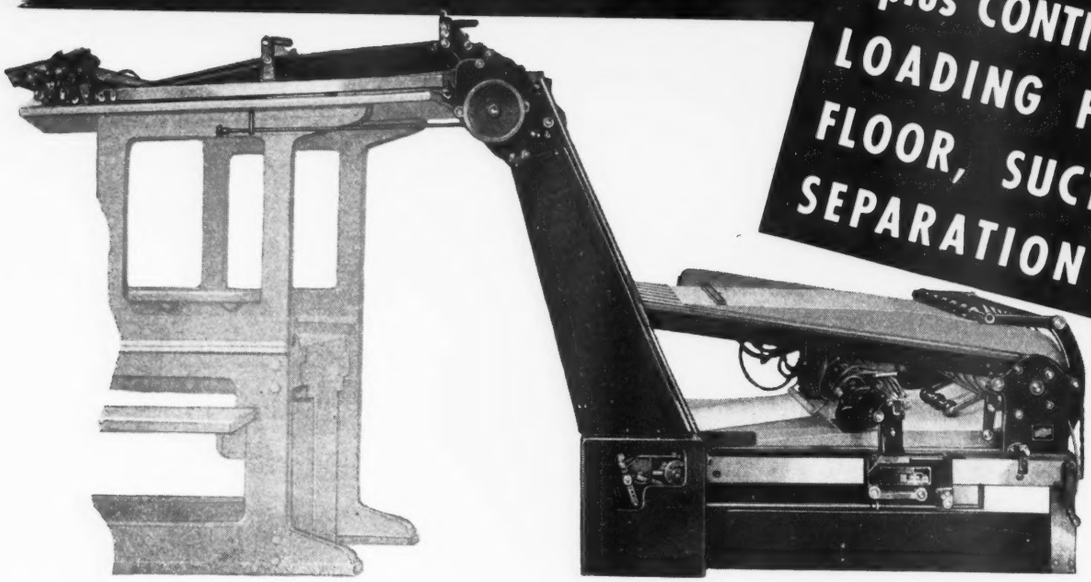
STREAM FEEDING ...plus CONTINUOUS LOADING FROM FLOOR, SUCTION SEPARATION



and still other advantages now for the first time available in combination

The New Christensen Continuous Suction Stream Feeder brings you:

STREAM FEEDING—with simplified feeder conveyor that delivers sheets in *slow motion* to press guides. No slow-down needed.

CONTINUOUS FEEDING FROM FLOOR—eliminates press stops to load; helps in sheet separation.

SUCTION SEPARATION—with combined sheet straightening forwarders. No margins or gutters required—and no marking of sheets.

NEW TYPE CALIPER—obviates resetting for different thicknesses of paper and insures feeding of only one sheet at a time.

The New Christensen Continuous Suction Stream Feeder may be attached to flatbed and rotary presses now fed by hand or equipped with worn-out or obsolete feeders. This feeder is also available for new installations of large flatbed and rotary presses and is used on Christensen and other makes of varnishing machines. It will feed sheets at the practical operating speed of the fastest rotary presses.

When space is not available *behind* press, the Christensen Continuous Suction Stream Feeder may be supplied in feedboard mounted type.

Write for further information about this and other Christensen and Dexter Equipment for printers and binders.

Christensen & Dexter Machines

All Dexter and Christensen Products are sold and serviced by

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SALES REPRESENTATIVES: Chicago, Philadelphia, Boston, Cleveland, Washington, St. Louis

AGENTS: Dallas, Denver, San Francisco, Los Angeles, Seattle, Toronto, Montreal, Winnipeg . . . and in Foreign Countries

DEXTER Machines are built by Dexter Folder Company at Pearl River, N. Y.
CHRISTENSEN Machines are built by Christensen Machine Company at Racine, Wisc.

TECHNICAL BOOKS

The books listed below may be ordered through Printing Equipment Engineer, 1276 W. Third St., Cleveland 13, Ohio. Because of narrow handling margin, please send remittance with order.

GENERAL

MATERIALS HANDLING—By Harry E. Stocker. This book is of vital interest to mechanical and production executives in printing and publishing plants. While not written specifically as a treatise on materials handling in the printing plant, yet a great deal of its text will be of value in the handling of materials in the plant and out-going shipments from the plant. Bound in light buckram, 309 pages, many illustrations, size 6 in. by 9¼ in. Price $5.35 plus 25c postage and handling.

READING AS A VISUAL TASK—By Matthew Luckiesh, D.Sc. and Frank Moss, E.E. Temporarily out of print.

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 plus 25c postage and handling.

HOW TO HANDLE COLLECTIVE BARGAINING NEGOTIATIONS—Report based on a survey conducted by the National Foremen's Institute. Points out errors and fallacies which have tripped management in the past and how to avoid these mistakes in the future. Multon binder. 42 sheets, 9½ by 11½ in., $5.00 plus 25c postage and handling.

HOW TO HANDLE LABOR GRIEVANCES—By Dr. John A. Lapp. Dr. Lapp discusses a practical treatment in the five part manual. Titles of the parts are: Background and History of Grievance Procedures; Grievances and How to Deal With Them; Grievance Procedures in Selected Industries; and Problems of Grievance Procedures. Bound in buckram cloth, 294 pages, 5½ by 8 in., $4.00 plus 25c postage and handling.

THE ART AND TECHNIQUE OF PHOTO-ENGRAVING—By Julien J. Soubiran. Steps for the production of engravings are explained for the buyer of engravings or those who should be familiar with the process. Described are the types of photo-engravings, surprinting, copy preparation, color progressives, benday values and tone charts. Size 5½ by 7¾ in., 88 pages, $1.50 plus 25c postage and handling.

PHOTOGRAVURE—By H. Mills Cartwright. Temporarily out of print.

STEREOTYPE

MANUAL OF STEREOTYPING—By Joseph Goggin. This 256-page book conveys technical information and manipulating procedure. Written by a practical stereotyper. Price $5 cash with order, plus 25c postage and handling.

OFFSET-LITH

LITHOGRAPHERS MANUAL—Compiled by Walter E. Soderstrom. Second revised edition. Technical information from copy to finished job. Nationally known technical men contributed the bulk of practical camera, platemaking and presswork information. Size 8½ in. by 11¼ in. Bound in red cloth, gold stamped. Many of the 368 pages are illustrated. Price $5 per copy plus 25c postage and handling.

THE SINGLE COLOR OFFSET PRESS—By I. H. Sayre. The purpose of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses.

Section I deals with Harris offset presses.

Section II deals exhaustively with materials used in offset printing.

Section III deals with ATF's Webendorfer single-color offset presses.

Illustrated with 99 figures in line and halftone; 284 pages; size, 6 in. by 9¼ in.; bound in blue cloth, cream stamped lettering. Price $6 plus 25c postage and handling.

PHOTOGRAPHY AND PLATEMAKING FOR PHOTO-LITHOGRAPHY—By I. H. Sayre. This is an instruction book and an encyclopedia, both for the beginner and the experienced offset-lith platemaker. Revised edition. Illustrated. New section on color process platemaking techniques included. Price $6.50, plus 25c postage and handling.

PRESSROOM

PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $3.50, plus 25c postage and handling.

HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy plus 25c postage and handling.

HANDBOOK FOR PRESSMEN—By Fred W. Hoch. Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts, $3.50, plus 25c postage and handling.

Send order with remittance to PRINTING EQUIPMENT *Engineer*
1276 West Third Street • Cleveland 13, Ohio

Another Newspaper Orders the NEW GE ELECTRONIC PRESS DRIVE

BUFFALO COURIER-EXPRESS

SELECTS NEW G-E DRIVE IN PLANT EXPANSION PROGRAM

Faced with the need for another press to meet an expanding business, the publishers of this influential daily selected the new G-E electronic press-drive system above all others on the basis of superior operating features and simplified installation.

WILL SAVE SPACE AND INSTALLATION TIME

Because space was at a premium on the press floor, they were particularly pleased that the new drives required no threading motor, overrunning clutch, or drive brake, and therefore, no special foundations — the motors could be press mounted. Installation will be simple. These d-c motors, powered and controlled through ignitron tubes that convert a-c to d-c power, provide the smooth-running characteristics that all pressmen dream about.

Acceleration and deceleration are accomplished in practically an infinite number of speed steps, and press setups will be especially flexible because of the new control arrangement.

OPERATION AND MAINTENANCE SIMPLIFIED

The entire power and control system is totally enclosed in factory-wired cabinets that require only cable and water-cooling connections to be made at the plant. Press setups are made at selector switches in the pressroom, and standard push-button control means that no special training is required for operation.

IGNITRON RECTIFIERS . . . SPECIAL FEATURE

For several years ignitron tubes have been used in other industries throughout the country to improve processing operations. Not until this year had a variable-voltage drive system been designed to utilize these tubes for operating presses There are no power resistors to release heat into the control room. And the small amount of heat generated by the tubes is removed by a tap-water cooling system that takes it down the drain. Maintenance is simple, requiring only brief instructions.

With this new General Electric electronic drive system, therefore, the newspaper obtains the full benefits of simplified design and engineering on a drive that is easy to install, easy to operate, easy to maintain, and that permits greater ease in setting up press combinations than ever before. For a more complete explanation of the drive, write for Bulletin GEA-4670, "Now Electronics Drives Printing Presses" or contact the nearest G-E sales office. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

658-21

GENTLE AS AIR ITSELF

There's only one *pneumatic* tension

..."Gentle as air itself"... to control feeding paper from rolls

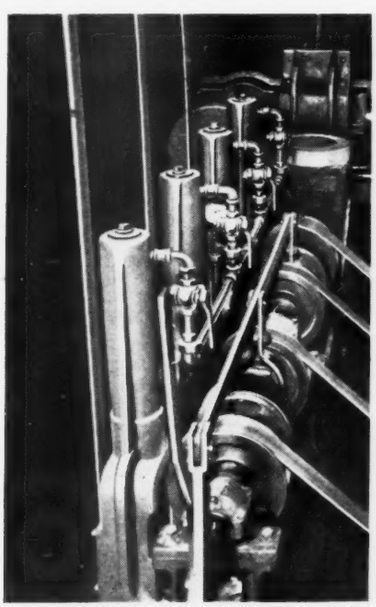
Nothing matches AIR—for soft, resilient, instant-acting pressure. And positive air pressure controls every foot of the unwinding web, when your rolls are fitted with Wood Pneumatic tensions. Constant, unvarying tension, at any desired press speed becomes fully automatic, even when making splices.

Used with Wood Autopasters, Pneumatic tension accomplishes perfect, fully-automatic web splices at top speed. Write for illustrated brochures.

Wood Newspaper Machinery Corporation, Plainfield, N. J.
Executive Offices, 501 Fifth Avenue, New York 17, N.Y.

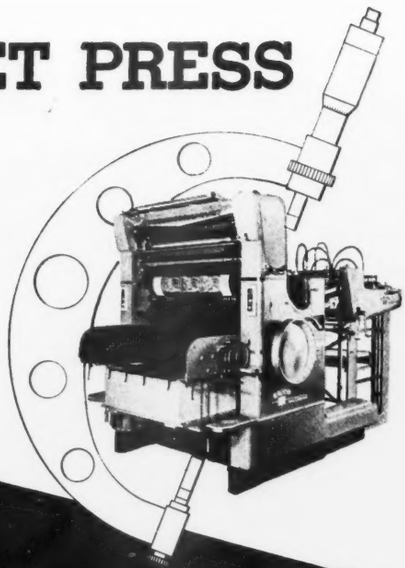
Wood
NEWSPAPER
MACHINERY

pneumatic tensions
with fixed belts for newsprint
with running belts for
delicate stock and paper-making

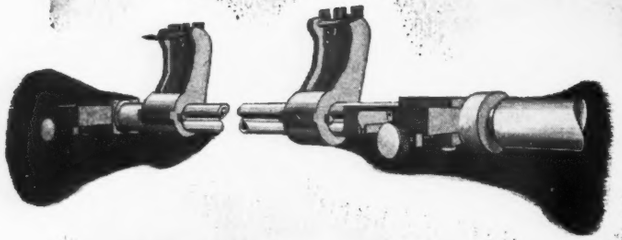


Four air-pistons act independently...each belt tension adjusts instantly to compensate for variations in the web itself. The entire system acts as a powerful "brake," when you need to use the Red Button stop.

EBCO willard OFFSET PRESS



Registers with Lithographers



Unique patented front guides quickly and accurately adjustable for fast get-away. Positive absence-of-sheet and out-of-register sheet detectors incorporated in each front guide mechanism.

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FOR COMPLETE DETAILS SEND FOR BOOKLET. CLIP THIS COUPON TO YOUR LETTERHEAD.

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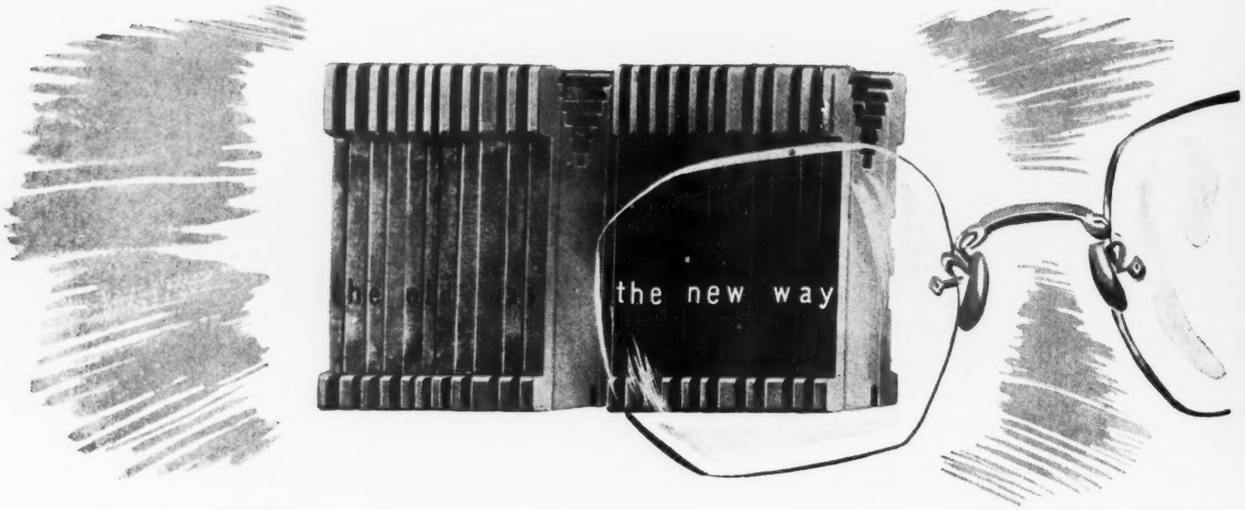
R.O.P.

R.O.P. Could Mean Red Offers Profits

Yes, run-of-paper colors . . . red or any other effective colors . . . make profits for newspapers and advertisers alike. Color gets results in newspaper advertising . . . and advertisers buy results, not just space. R.O.P. color campaigns are increasing every day; they appeal to both local and national accounts. It's time to get on the color bandwagon, but if you can't see the profits for the problems, you will find a talk with IPI helpful. We have worked for years with many newspapers successfully printing color. This experience has given us an understanding of color unsurpassed in the newspaper field. We participated in the research and development of the standard process colors adopted by the A.N.P.A., the A.A.A.A. and the A.N.A. We have unexcelled laboratory facilities for the formulation and testing of inks specially made to your requirements.

We really can help you with your color printing problems. Write International Printing Ink, Division of Interchemical Corporation, Empire State Building, New York 1, N. Y. Branches and service stations in 29 principal cities.

Just like putting on a



NEW pair of glasses

Among linecasting machine operators eyestrain is a common complaint. In fact, a high percentage of all printers have defective vision in a measurable degree. That is why Matrix Contrast Service is doing such an important job in reducing eyestrain among operators.

Black and White processed reference marks have a visibility factor equivalent to 9½ point type as compared with 3-point for used, non-processed matrices. Whether an operator is 20 or 60 years old, with 20/20 or 10/20 vision, Matrix Contrast Service will aid in setting cleaner type — an average of ⅓ fewer errors—with less effort, less eyestrain, and consequently, less fatigue. By giving your operators the visual advantages of contrast matrices, you'll get more output, fewer errors and, most important, a definite improvement in employee relations.

Matrix Contrast Service also includes the optional use of colors—red, green, yellow or orange—to distinguish different fonts. Write today for the latest information on the many advantages of Matrix Contrast Service.

Matrix Contrast Service

MATRIX CONTRAST CORPORATION, Empire State Building, New York 1, N. Y. — 326 W. Madison Street, Chicago 6, Ill.—1105 Trenton Street, Los Angeles 15, Calif.—Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

(Photo by John McMaster, Eastman Kodak Co.)

▲ *Panel of Experts Participating in Presentation by National Printing Equipment Association* — The meeting was part of the stated program of the Printing Industry of America, French Lick, Ind., September 22 to 25. Standing from left to right they are identified as follows:

Oliver S. Barrie, Western Sales Mgr., Oxford Miami Paper Co., Chicago.

Herman R. Freund, Chief Engineer, Intertype Corporation, Brooklyn, N. Y.

R. V. Mitchell, Chairman of the Board, Harris-Seybold Co., Cleveland; President, National Printing Equipment Assoc.,

Theodore Rosevelt, Technical Director, Ink Development Laboratory, General Printing Ink Div., Sun Chemical Corp., New York, N. Y.

F. Jack Jeuck, Div. Vice President, IPI Div. of Interchemical Corporation, New York, N. Y.

Ernest E. Jones, President, Graphic Arts Corporation of Ohio, Toledo, Ohio.

John M. Wolff, Western Printing and Litho. Co., Racine, Wis.

R. J. Hogan, Plant Manager, The Blanchard Press, New York, N. Y.

Lex Claybourn, L. W. Claybourn, Inc., Chicago.

J. L. Kronenberg, S. D. Warren Co., Boston.

J. E. Eddy, President, Miehle Printing Press & Mfg. Co., Chicago, Ill.

Willis C. Krumlaw, Ansco Graphic Arts Div., General Aniline & Film Corp., Binghamton, N. Y.

Jack Henderson, Sales Representative, Henneberry Rotogravure Co., Inc., Chicago.

Dr. R. M. Schaffert, Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O.

Session *conducted by National Printing Equipment Association with panel of experts outstanding event of PIA convention at French Lick, Ind.*

LABELED simply as *Presentation by National Printing Equipment Association*, one of the most important convention sessions of the year was held by NPEA at the PIA convention in French Lick, Ind., on Monday, September 22. The session lasted three and a half hours. The attendance was large and the meeting ran overtime at the request of the audience. Highlights of the meeting were an address by R. Verne Mitchell, President of the National Printing Equipment Association who presided; the addresses of Russell J. Hogan, Plant Manager, The Blanchard Press, New York; the address of John M. Wolff, jr., Vice President of Western Printing and Lithographing Co., Racine, Wis., the one by Dr. R. R. Schaffert, Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O. and the discussion by H. R. Freund, Chief Engineer of Intertype Corporation. Many questions were asked from the floor and were answered by a panel of experts seated upon the speakers' platform.

The panel of experts was as follows:

John McMaster, Graphic Arts Sales Div., Eastman Kodak Co.—*Photography*

Lex Claybourn, L. W. Claybourn, Inc., Consulting Engineers, Chicago

Willis C. Krumlaw, Ansco, Graphic Arts Div. General Aniline & Film Corp.

Herman R. Freund, Chief Engineer, Intertype Corporation—*Typesetting Machines*

F. J. Jeuck, Divisional Vice President, International Printing Ink—*Inks*

Oliver S. Barrie, Western Sales Manager, Oxford Miami Paper Co.—*Paper*

Theodore Rosevelt, General Printing Ink Div., Sun Chemical Corp., Technical Director, Ink Development Laboratory—*Inks*

Ernest E. Jones, President, Graphic Arts Corporation of Ohio,—*Lithography*

J. E. Eddy, President, Miehle Printing Press & Mfg. Co.—*Equipment*

John L. Kronenberg, S. D. Warren Co.

Jack Henderson, Sales Representative, Henneberry Rotogravure Co., Inc., Chicago—*Gravure*

(*Continued next page—col. 3*)

Animated poses of (left) Public Printer Augustus E. Giegengack, President R. Lyn Cave of the Washington (D. C.) Club of Printing House Craftsmen, and (right) Dr. Ralph L. Lee, Public Relations Dept., General Motors Corp.

Reviving a prewar custom, the Washington Club of Printing House Craftsmen held its October 21 dinner-meeting in Harding Hall at the United States Government Printing Office. The gathering, swelled by Craftsmen visitors from Baltimore and other nearby cities, was the largest in the history of the Washington Club, nearly 400 being present for the dinner, including a large contingent from the Bureau of Engraving and Printing. Printer A. E. Giegengack was introduced as toastmaster by President R. Lyn Cave.

Before presenting the speaker and guests, Mr. Giegengack invited the membership to view a display of lithographed press sheets and booklets with text set on the experimental Intertype Fotosetter. The displays were arranged by the meeting's chairman, Bill Smith.

Dr. Ralph L. Lee, Public Relations Department, General Motors Corporation, was the principal speaker, his subject being *Humanics in Printing*. The theme of his talk was the necessity of understanding fundamentals and immutable differences in individuals and the essential fact that employers must learn to work harmoniously with all the types which are found in any group of people. "People do not change very much and cannot change even if they want to. The wise executive uses the material he has at hand instead of trying to combat natural laws," Dr. Lee said.

At the conclusion of the meeting, the Public Printer, on behalf of the Club, presented to the speaker a commemorative booklet which was purportedly written, prepared, illustrated and bound by the Craftsmen during the course of the address.

The Importance of Policies

In his address, opening the session, Mr. Mitchell pointed out that "in business policies and planning the size of the business are not important." "Two partners," he said, "with five employees should have a five-year objective on paper in writing." He outlined eleven objectives in a planned program for printing, covering selling and markets, plant and equipment requirements; a program of engineering and time schedules; manpower and training; the gross margin needed for research; dividend objectives; and capital requirements, provided from retained earnings, and the amount to be provided from the open market.

"It is possible," he pointed out, "to manage without a prescribed and predetermined guide, but it is quite likely to be hit and miss and rarely will reach the degree of success which a thoroughly planned program, with detailed policies, can accomplish. Planning is of no value, however, without a firm determination not only to plan but to reach the goal."

Letterpress—Lithography

Two outstanding leaders in the fields of letterpress and lithography discussed the two processes. Russell J. Hogan, Plant Manager, The Blanchard Press, New York spoke on behalf of letterpress, while John M. Wolfe, jr., spoke on lithography. Both speakers, while not debating, were quite agreed that each process has its place in the printing economy.

Intertype's Chief Engineer Discusses the Fotosetter

(Additional information given by Mr. Freund on page 21)

By H. R. FREUND*

**Chief Engineer, Intertype Corporation. Abstract of address delivered before convention of Printing Industry of America, French Lick, Ind., September 1947.*

FOR over a decade, Intertype engineers have labored on the two-fold problem of, first, producing a practical character-bearing matrix which would not only present at all times a perfect photographic character image to the camera, but would also withstand the most adverse conditions in use and, second, building a machine which would meet all the requirements of an ideal phototype composing machine.

This machine must at least operate at the speed of a modern slug-casting machine. It must be fool-proof and fully automatic in its operation. Justification, a difficult problem, must be automatic and simultaneous with the photographing of the assembled line.

Lines must also be arranged automatically in galley form or in smaller units as required, with the spacing between the lines variable and entirely automatic. A simple method for correcting errors must be devised. And, finally, the product of the machine, the composed page, must be equal in excellence of quality to fine hand-set composition.

The Fotosetter matrix contains a clear, sharp photographic character of the type design imbedded in its side. Light is projected through this character and the result is a perfectly clear, sharp and dense black reproduction on sensitized film or paper.

Matrices are assembled in the same way as in the familiar Intertype slug-casting machine and the assembled line delivered to the camera. The camera equipment then begins to function and the assembled line is photographed, character by character, onto the sensitized paper or film. The line, as stated above, is automatically and simultaneously justified to a predetermined length, line after line, and with any desired spacing between lines. After the line has been photographed, the matrices are returned to the magazine in the same way as on a regular Intertype slug-casting machine. This takes place with remarkable speed.

Since the Fotosetter can set different sizes of type from the same font of matrices, only two sizes of matrices are needed to produce all the regular sizes from 4 pt. to 36 pt.

It is generally agreed that no one characteristic more quickly distinguishes good typography than the spacing of lines and letters. Correct spacing is easily obtained on the Fotosetter.

The amount of spacing required for justifying a line is automatically divided throughout the entire line, between characters as well as between words, and when the spacing between lines is established, that spacing will be repeated accurately until the setting is changed.

And, of special interest to typographers, is the full-kerning, close fitting italic composition of the Fotosetter. The objectionable spacing between letters such as caps *W, V, Y, T, L,* etc., with adjacent letters, is overcome without the use of logotype or ligature.

The camera is arranged so that any amount of "take" can be removed for developing in broad daylight. Immediately after, another container is attached to the film feeding mechanism and the operator is ready to continue setting type.

As you must realize in the development of a machine of this kind many ideas are still in a very live state and it would be hazardous for me to disclose further details of this machine until all our patents are fully granted.

Mr. Hogan referred to letterpress as the oldest and the No. 1 widely used process. It is still unsurpassed for exact reproduction. It will continue to hold its own and increase in importance because of the numerous organizations in that field.

He spoke of the serious shortage of manpower menacing the future of letterpress. Improvement in efficiency is needed both in the composing room and the pressroom. The key to profit or loss, he holds, is in the operation of the pressroom. Efficiency must begin with press equipment.

He stressed also the importance of makeready and pre-makeready, maintaining that 50 percent of production time is chargeable to makeready. Pre-makeready should be handled not by a compositor, but by an experienced pressman.

New precision equipment is one of the great needs. He believes also that the long awaited color presses for commercial and job printing will soon come along.

In predicting what was ahead for lithography, Mr. Wolff hinged his informative address on three words—*Opportunity*, *Control*, and *Invest*. "Opportunity," he said, "is the only definite and sure thing ahead" for the process. Lithography is still a new process—in spite of its rapid growth and expansion. "The biggest possible danger of the moment," as he puts it, "is in becoming complacent, self-satisfied and convinced that lithography has reached its zenith in the development of the process, in equipment and in methods."

Asserting that lithography differs from other reproduction processes in that it is a chemical process rather than mechanical, he named three problems of production with which to contend: (1) Human element, (2) Varied technique, and (3) Chemical reaction. He gives as the answer to all three of the problems—*control*—"control of the skills of our manpower or human element", (*i.e.*, training personnel and manpower), "control of the techniques of the industry and control of the chemical reactions that enter into the process."

Offering what he calls his best advice to those engaged in lithography today, he selects the word *investment*. In this connection, he told of the work of the Lithographic Technical Foundation, particularly in tackling these timely and active projects: (a) The Cronak treatment for zinc plates, (b) Cellulose gum as a disensitizer and gumming material, (c) Standardization of the graining process, and (d) Tone control in halftone photography, platemaking and printing.

In closing, he added, "Control of our Opportunity is within our grasp today, if we will invest—invest in training, invest in research and invest in equipment—invest in the skill and brains of our industry and invest in ourselves. If we do these things, we have no fear of what is in the future for lithography."

Electro Platemaking Process

The fourth principal speaker on the program was Dr. R. R. Schaffert, Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O. The subject of his address was *An Electro Process of Platemaking*. An abstract of Dr. Schaffert's address appears under a separate heading in this issue of *Printing Equipment Engineer*.

Intertype Fotosetter

Intertype Corporation's new phototypesetting machine, the Fotosetter, was discussed by Chief Engineer Herman R. Freund. An abstract of Mr. Freund's discussion appears under a separate head-

(Continued on Page 56)

"Still a Laboratory Baby"

By Dr. R. R. SCHAFFERT*

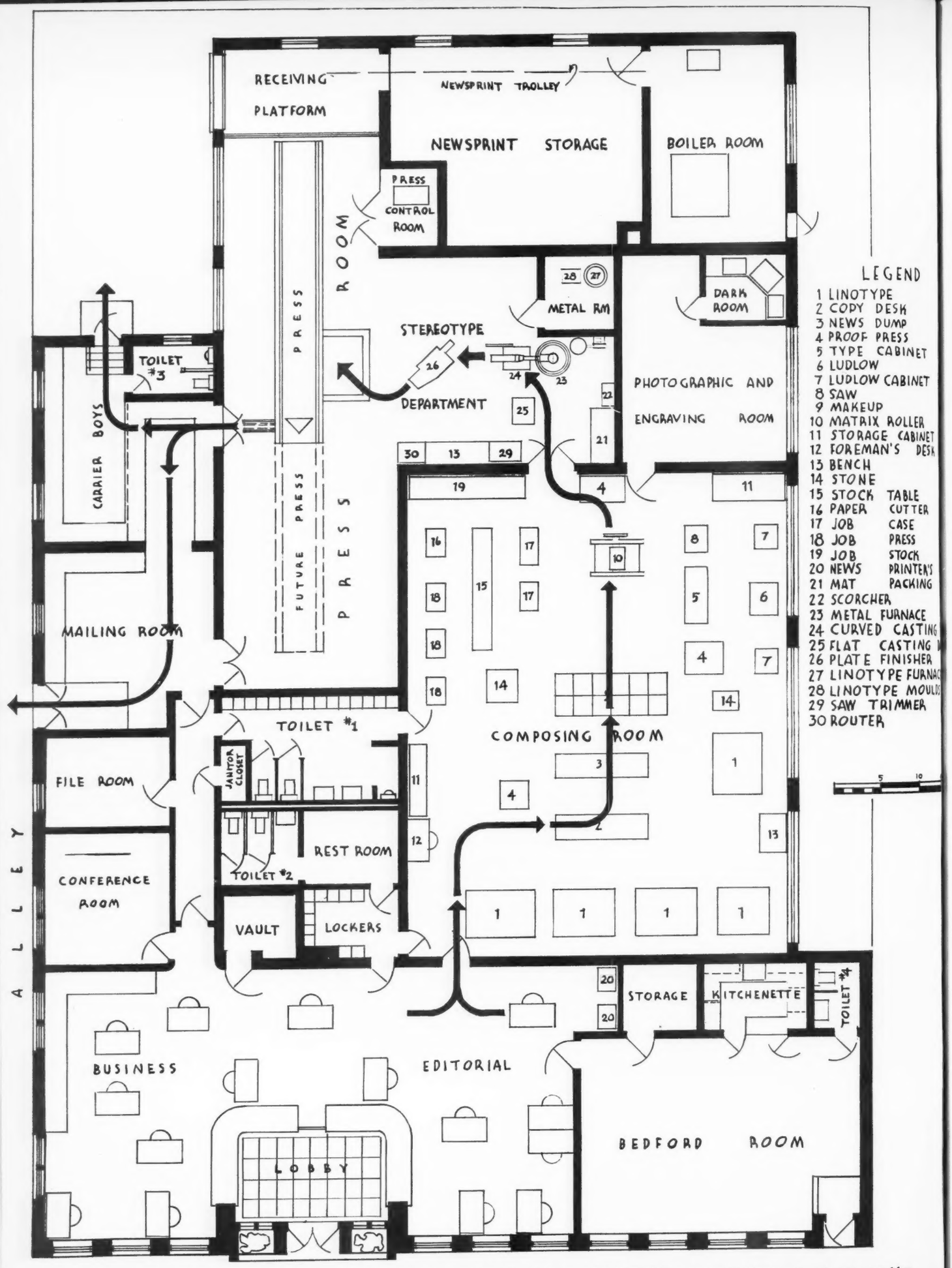
**Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O. Abstract of address delivered before convention of Printing Industry of America, French Lick, Ind., September, 1947.*

A YEAR or two ago, I recall reading an account of a convention which, I believe, was concerned with plate making for newspaper printing, in which one of the speakers predicted that engravings would be made by placing a metal plate directly in the camera and exposing in that position to form some kind of image upon the plate. He did not say how this was to be done. However, whoever he is or wherever he is, he will probably get some satisfaction when he hears that this is entirely possible in the light of some of the present technical knowledge on a new principle of photomechanics gained as a result of research investigations in the Graphic Arts at Battelle Memorial Institute.

Recently, during some of our research investigations in the Graphic Arts Research Division at Battelle, we have demonstrated a process of plate making which eliminates photographic film and developers, bichromated coatings, and the various operations of photoprinting on metal, developing, drying, etc. The procedure is as follows: a metal plate with a special type of coating is placed in the camera in place of the film or plate. This coating is sensitized by spraying with electrons. The plate is exposed in the camera in the same general manner as employed in exposing photographic film or plates. The photographic speeds are comparable. After exposing, the plate is removed from the camera, placed in a tray containing a special type of micronized powder, and after dusting with this powder, the image on the plate becomes visible. This step is analogous to developing the plate. The plate is then heated until the powder fuses to form a solid resist image on the metal surface. At this point, the metal plate is ready for etching, or if the metal were originally grained, the plate can be used immediately as a lithographic plate. All of these things have been demonstrated to be possible in the laboratory.

The foregoing remarks may sound a bit mysterious. However, the scientific explanation of the process is not difficult. The metal plate, whether it is to be used for engraving or for lithographic printing, is first coated with a photoconductive material. Photoconductivity is that property of a material which causes it to conduct electricity when light shines upon it. In the dark, such a material might be an insulator. We have found that when a metal plate coated with a photoconductive layer is charged with static electricity, such as by spraying with electrons, the surface of the coating becomes sensitive to light, such that if an image is projected onto the surface, electrostatic charges will leak away where the light strikes and remain in the shadow parts of the projected image. Exposure to light, therefore, produces an electrostatic image. This image is invisible but becomes visible after developing the plate by dusting with a special type of micronized powder. The image thus produced is a positive image. The photographic nature of the process differs in this respect from silver emulsion film. This electrophoto process produces a positive to positive reproduction; whereas silver emulsion photography is positive to negative and vice versa. As you can see, the steps are quite simple. Spray the surface of the plate with electrons, expose to light, develop by dusting with a powder, a completely dry process which does not involve any photographic film or chemical developers.

I want to make it clearly understood at this point that the process referred to in this talk is not a commercial process. It is still a laboratory baby, and will require considerable research and development work before commercial practicability can be considered. We are, at the present time, very much interested in obtaining help from the printing industry in the development of this process. It costs money to do research and we are not in a position to carry on a large program on this particular development with our own funds. As you can see, Battelle has uncovered an entirely new photomechanical principle. We do not yet know what all of the potentialities of this process are. From what has been described, the process promises certain advantages in the elimination of some of the costly operations of plate making. I do not wish to predict what will happen to this process in the future. I merely want to give you the facts as they exist now and let you do the predicting.



Here is Floor Plan Layout of new publishing plant for the Bedford (Ind.) *Times-Mail*. Building and plant designed and engineered by Robt. W. Dickerson. Also identified are the office, production departments and equipment. The workflow arrows are self-explanatory. This small newspaper publishing and commercial printing plant is entirely self-contained and is an excellent example of a modern plant. Floor space has been provided for future press expansion. Note the newsprint trolley, the photographic and engraving room, the conference room and the Bedford 30 ft. by 30 ft. room complete with kitchen and toilet facilities. In the latter, civic and social groups may hold meetings.

Severe but pleasing entrance to new plant building of the Bedford (Ind.) *Times-Mail*. Building was designed, engineered and erected under supervision of Robt. W. Dickerson.

New Building and Equipment

for Bedford (Ind.) *Times-Mail* represents latest in publishing and printing facilities for small daily newspaper and commercial printing plant

By STAFF WRITER

A CONVIVIAL huddle consisting of the publisher, the builder, and the architect following occupancy of the new home of the Bedford (Ind.) *Daily Times-Mail* ended in unanimous agreement that the construction of the building has been accomplished during the most difficult period in the history of civilization for such an operation. And, as they recalled the obstacles that had been hurdled, the shortages and substitutions, the nation-wide quest for materials and equipment, and the resultant high construction costs, further agreement was easily reached that nothing short of the stark necessity that had faced this publisher could have justified the undertaking.

But the necessity did exist, and with such insistence that all arguments in favor of deferring improvements until a more favorable time were overwhelmed by its weight. When, in 1942, Stewart Riley and George Wise consolidated Bedford's two dailies *The Times* and *The Mail*, they were at once confronted with a housing problem.

"Gratitude" Pervades Plant

The *Mail* building, while in better physical condition than the *Times* plant, had been too small even to accommodate that paper properly.

Its use for combined operations was obviously out of the question. The *Times* building, on the other hand, while providing a greater amount of space, was in deplorable physical condition. Very old, and constructed for a different occupancy, the years had taken a heavy toll and its use was a constant menace to the health and safety of its occupants. To make matters worse, the site abutted the main line of the Monon Railroad and, if the *Times-Mail* employees have become more religious than some newspaper people, their devoutness can doubtless be attributed to their prayers for protection when a train was heard approaching and their hymns of gratitude that the building was still standing as it roared away in the distance. It was just about as bad as that.

Since the *Times* plant did provide more space and since the *Mail* site was in a more desirable location, the *Times* building became the temporary home of the *Times-Mail* and plans for a new plant at the *Mail* site were started. Land adjacent to the *Mail* site was acquired so that the total site available for the new plant had a width of 90 ft. and a depth of 131 ft. 3 in. The *Mail* plant, except for a very few structural elements, was entirely gutted and the space rearranged and coordinated with the new construction.

Direct Operation

The basic objective in planning the new plant was the most direct, ecnomical, and speedy production operation that could be accommodated on the site. How nearly that objective has been accomplished can be seen from the accompanying plan with its workflow indications. While the plant has been occupied for only a few months, it has been found that the operations are as efficient in reality as they appeared on paper. From its points of origin, the work moves in direct line through the several production operations—composing room, stereotype department, and press room—without back-tracking or detours.

From the press, the printed papers pass to a receiving counter in the mailing

Principal Executive Personnel, Bedford (Ind.) Times-Mail

At left is George J. Wise, Co-Publisher of the *Times-Mail*. Wise, with Publisher Stewart Riley, has had an unusual and highly pleasant business association over a period of 19 years. In addition to *Times-Mail* association, Wise is interested in Civic Activities Association.

In center is Stewart Riley, President and Publisher of the *Times-Mail*. Riley came to Bedford in 1942. He has been active in Bedford civic affairs. He has served actively as director of the Bedford Chamber of Commerce and is now its president. Is also a member of the Community Chest.

H. P. (Mac) McChord, Mechanical Superintendent, it is asserted, has worked on more newspapers than any other person in the Bedford (Ind.) *Times-Mail* plant. Mac is reputed to be an organizer and a natural mechanic. During World War II he was civilian tow pilot at Lamesa, Tex. He's now back to his first love—printing.

room, where those scheduled for carrier delivery are diverted to the carrier boys' room and those for mailing are passed along for addressing, wrapping, and bundling. A Cushman delivery unit conveys them to the Postoffice and depots.

Carrier Boys

The carrier boys' room provides ample space to accommodate the boys during the waiting period before press run and has generous counter surface for folding and bagging papers. A warm, dry waiting space for the boys is of special value in bad weather and encourages them to assemble in time for the press run. The boys have their own toilet accommodations and at no time is there any occasion for them to wander into the plant with attendant risk both to themselves and the plant.

Newsprint Delivery

Newsprint is delivered through the alley at the side of the building and received on a receiving platform above the end of the press. A rise in grade of nearly 5 ft. from the front to the rear of the property brings the floor of the receiving platform to approximate truck floor level. The rolls of newsprint are picked up from the platform by an electric hoist on a trolley which conveys them into the newsprint storage room where they are lowered to the floor or to whatever tiering level is desired. The opening from pressroom to newsprint storage is at the loading end of the press.

Photo and Engraving

The photographic and engraving department, while more than ample in space for the present one-man plant, has sufficient space to accommodate a small but complete standard engraving operation if and when the time comes when more production equipment is needed.

Limestone Building Front

Bedford being the limestone capital of the world, the use of any other material for the front of the building would have been sacrilege. Indiana limestone, while used for many of the finest buildings in the world, and susceptible to use in intricate and costly ways, also lends itself to use in purely utilitarian structures at little or no cost penalty. This building is faced with sawed standard buff limestone slabs on which a minimum of hand work has been required. The design is simplicity itself, and, at relatively small cost, a building facade of beauty and dignity has been achieved.

Mechanical Change of Air

The publishers of the *Daily Times-Mail* have a conviction which amounts almost to a fetish that the front office is entitled to no better working conditions than the "back shop". While air conditioning, including air cooling, has not generally been found economically or practically feasible for use in areas where a considerable amount of heat is generated by process work, sufficient air changes can be provided to make highly satisfactory working conditions. The entire mechanical portion of the plant is mechanically ventilated and sufficient air movement is created to provide comfort. Air from the outside is drawn into the composing room, moves across that space, and is exhausted through the roof over the stereotype department. The stereotype exhaust is sufficiently strong to capture and discharge all smoke, fumes, etc., that are generated there. A small metal room for remelting, pig casting, and dross burning confines the grime of those operations to that area while the stereotype exhaust fan in its ceiling quickly discharges it. A separate exhaust unit takes care of the engraving department, and another exhaust unit discharges air from the toilet and locker rooms. In the office section the air is cleaned and heated or cooled, depending upon the season.

Three saw-tooth monitors form nearly half of the composing room ceiling. They are glazed with corrugated structural glass and, facing north, admit a very constant quantity and quality of daylight. In addition to their utility as a light source, the monitors function also as cupolas into which the heated air from the spaces below rises. An exhaust fan in the end wall of each monitor quickly removes the heated air.

Variety of Floors

Throughout the office section of the plant the finish floors are of asphalt tile laid on the concrete base slab. The composing room has an Ironbound maple floor set on the concrete base slab in mastic. Throughout the rest of the mechanical plant the floors are concrete.

Ample, well-ventilated toilet, locker, and rest room facilities are provided. Toilets have tile floors and wainscots Lockers are of steel.

The Bedford Room

As a part of its public relations activity, a space called the Bedford Room has

(*Continued on page 52*)

EXECUTIVE ¶s

Martin M. ("Marty") Taylor has been appointed Chicago District Representative for Dayco rollers, according to announcement by the Dayton Rubber Company. The territory comprises six

Dayton Rubber Co. announces appointment of Martin M. Taylor as Chicago District Representative.

midwestern states. Taylor has spent 15 years in the roller business, in the Chicago area. He has spent some time in the production end of the business as well as selling in the field.

Percy P. Morningstar has been appointed manager of the New England branch of Paisley Products, Inc., with headquarters at 79 Milk St., Boston. Sam Stewart will direct the Paisley branch office at 15th and Market Sts. in the Harrison Bldg., Philadelphia. In announcing these openings Edwin Hillary, Sales Manager of Paisley's New York plant, stated that enlarged plant capacity and the development of several new cake form animal base glues and resin base glues enabled the expansion of the company's sales activities to paper converting and other adhesive consuming industries.

B. Mattison, an executive of Funditor, Ltd., London, Eng., during his travels through various parts of the United States, stopped off in Cleveland during September. Funditor, Ltd., is English agent for American products in the Graphic Arts. Mr. Mattison investigated equipment and supplies while here and visited a number of American printing plants to observe production techniques. The joint reception, he reports, to himself and Mrs. Mattison, was very satisfactory during the entire stay in the United States.

Further Operating Data About Fotosetter

(Additional remarks about Fotosetter by Mr. Freund appear on page 16)

(From proceedings of the Illinois Newspaper Mechanical Conference, held at Jefferson Hotel, Peoria, Ill., on October 11 and 12, 1947. Abstract of address delivered by Chief Engineer Herman R. Freund of Intertype Corporation on Intertype's photo-typesetting machine.)

"SINCE the Fotosetter can set different sizes of type from the same font of matrices, only two sizes of matrices are needed to produce all the regular sizes from 4 pts. to 36 pts. The amount of spacing required for justifying a line is automatically divided throughout the entire line, between characters if necessary, as well as between words. When the spacing between lines is established, that spacing will be repeated accurately until the setting is changed.

"The Fotosetter matrix contains a clear, sharp photographic character negative of the type design embedded in its side. Light is projected through this character and the result is a perfectly clear, sharp and dense black reproduction on sensitized film or paper.

"The camera is arranged so that any amount of take can be removed in broad daylight for developing. Immediately after, another container is attached to the film feeding mechanism and the operator is ready to continue setting type. The width of the film can vary from single column measure to a maximum width of 42 picas.

"But the Fotosetter is capable also of producing film positives or negatives with the emulsion on the desired side for any kind of platemaking without further camera work."

After Mr. Freund's talk Mr. Massengale (Alex Massengale is Composing Room Supt. of the Peoria (Ill.) Newspapers, Inc.) asked if there were any questions. There were many.

"How many lines per minute can you set?"

"As fast as the operator can work. The camera action is much faster than most operators can work."

"Does it photograph as the line assembles?"

"No, the line is delivered and photographed one letter at a time. That is the reason we can get these fine printing italics. In order to get the best results, you must photograph a character itself."

"What do you use instead of the matrix?"

"The same as the matrix, but the character is impressed on the side instead of the edge."

"What is the quality of the negative?"

"Good."

"How are corrections made?"

"I cannot tell you that yet, but it is just as fast as you can punch the line out and stick another in. A special device we have developed is required."

"Do you use strip film?"

"We use the regular base film. You have the high fidelity. We can blow up type better than the original proof."

"When will this machine be on the market?"

"I don't know."

"Does the machine develop and fix the film?"

"No, you develop the film in the dark room. If you did the two things on one machine, you might have trouble."

"How do you accomplish double line characters?"

"We strip those in. Some day we may do that automatically. It isn't much of a trick to strip them in."

"This machine has 114 keys. Up to the 90 keys it is standard arrangement."

Stuart E. Arnett, Sales Manager of the Printing Machinery Div., Electric Boat Co., announces the appointment of Jack L. Hagen as Mid-Western District Manager in charge of the Chicago Office. Mr. Hagen was formerly superintendent of The Workman Mfg. Co., Chicago. He was associated with the Workman for 20 years. During this time he gained experience in all departments of the business in-

Jack L. Hagen becomes Mid-Western District Manager for Electric Boat Co.

cluding both offset and letterpress production, sales and accounting. Hagen is a past president of both the Chicago

(Continued on page 48)

NPEA *holds annual meeting at French Lick, Ind.— Constructive action taken — New equipment loan policy adopted*

THE fourteenth annual meeting of the National Printing Equipment Association together with subsequent meetings of the retiring and new boards of directors were held at French Lick Springs Hotel, French Lick, Ind., on Tuesday, September 23. The meeting was presided over by President R. V. Mitchell.

Five companies were accepted as new members of the association. They are: Electric Boat Co. (Printing Machinery Div.); Lake Erie Engineering Corp.; E. P. Lawson & Co., Inc.; The Talk Corp., and Walden Sons & Mott, Inc.

Five new directors were elected. The nominees previously had been selected to serve one-year terms, but were re-elected for three-year terms, as follows: John E. Eddy of Miehle Printing Press & Mfg. Co., Walter A. Sittig of H. B. Rouse & Co., Harold T. Simpson of Printing Machinery Co., Fred S. Tipson of T. W. and C. B. Sheridan Co., and Edward G. Williams of American Type Founders. At a later meeting of the Board of Directors, L. W. Claybourn' Inc., was accepted as a member of the Association.

Harry L. Gage, Vice President of Mergenthaler Linotype Co., reported for the Educational Committee. After the presentation of the Educational Committee's report, it was decided unanimously to continue financial support of the National Graphic Arts Educational Association. During the presentation of Mr. Gage's report it was revealed that as the result of a survey machinery valued at $1 million at prevailing prices had been loaned to schools and is now outstanding. It was also recommended that uniform action be taken by members with respect to machinery loans to schools throughout the industry. This recommendation also was adopted. In the future, when a manufacturer is solicited for the loan of equipment to a school he will write to the secretary of the association who in turn will get in touch with the Educational Committee of the association. In turn, the committee will make a recommendation to the member who has been solicited for the loan of machinery.

President Mitchell's recommendation that statistics for the printing equipment industry be gathered was approved.

President Mitchell also reported that the association directors had authorized him to discuss with the Internal Revenue Dept. in Washington, D. C., the possibility of obtaining a heavier depreciation ratio on equipment so that members of the association should experience no difficulty in making future replacements of machinery.

Meetings of Boards of Directors

At the meeting of the Board of Directors of the National Printing Equipment Association held on Monday evening, September 22 at the French Lick Springs Hotel, French Lick, Ind., action was taken upon matters to be presented to the annual meeting of the association the following day, as well as determination of matters to be disposed of by the directors.

Hon. A. E. Giegengack, Public Printer of the United States, discussed the possibility of holding a printing equipment exhibition in Chicago in 1950 in connection with the Intl. Assoc. of Printing House Craftsmen and other Graphic Arts organizations. Mr. Giegengack explained the history of these exhibitions and after discussion by the director members, President Mitchell was authorized to appoint a committee consisting of from five to seven members. The committee will investigate the proposal further and will confer with Mr. Giegengack and other officers of the National Exhibition Co. and will report back to the directors.

Officers Selected

At the meeting of the new board of directors of the National Printing Equipment Association, the following officers and directors were selected:

President—R. V. Mitchell, Harris-Seybold Co.

Vice President—Oscar C. Roesen, Wood Newspaper Machinery Corp.

Treasurer—Fred S. Tipson, T.W. & C.B. Sheridan Co.

Secretary—Jas. E. Bennet.

Executive Committee—R. V. Mitchell, Harris-Seybold Co.; Oscar C. Roesen, Wood Newspaper Machinery Corp.; Fred S. Tipson, T.W. & C.B. Sheridan Co.; Edward G. Williams, American Type Founders; Harry G. Willnus, Intertype Corp.; John E. Eddy, Miehle Printing Press & Mfg. Co.; and James E. Bennet.

Professional Training in the Graphic Arts

(Abstracted from address given by Prof. Bruce Buttles, Head, Dept. of Printing, Carnegie Institute of Technology, Pittsburgh, Pa., before annual meeting of Pennsylvania Newspaper Publishers Assoc., Harrisburg, Pa., October 1947).

OF what does professional training in the Graphic Arts consist? By way of illustration, I cite our program at Carnegie Institute of Technology. Our purpose is to provide a solid core of practical skills and understanding in the craft, surrounded by as much hard knowledge of management principles and techniques as a man can absorb in the two to four years he spends in the Department of Printing.

A man completing our course won't be able to receive a degree until, for example, he can operate and make simple repairs on Linotype, Monotype and Ludlow equipment. The chances are he will never need to practice those skills, but his knowledge will prove invaluable later on in the thousands of management or production decisions he must make in an executive position. Further, he will be sufficiently well-grounded in typography to redesign the front page, and improve the quality of advertising, and he will know something about the labor relations necessary to effective cooperation with personnel in accomplishing such aims.

These are just a few of the qualifications a properly trained man in our field will possess when he leaves the printing classroom, and shops for a position in the plant or office. Of course, he will also be well schooled in the specialized accounting pertaining to printing operations, in economics, problems of governmental regulation, and to some extent in commercial practices and law.

Miehle Sales Meeting

Miehle Representatives from the entire United States and Canada met in Chicago recently for a general sales meeting with company officials.

The sessions included detailed analyses of new Miehle presses, a review of present press production schedules, and round-table discussions on industry trends, sales, advertising and service policies.

EQUIPMENT & SUPPLIES

Rush Fybrglass Plate Brush

THE Eraser Co., Inc. has designed a Rush Fybrglass plate brush for electrotypers, photo-engravers, stereotypers and typographers. It is the size of regular plate brushes but has tiny flexible glass fibers.

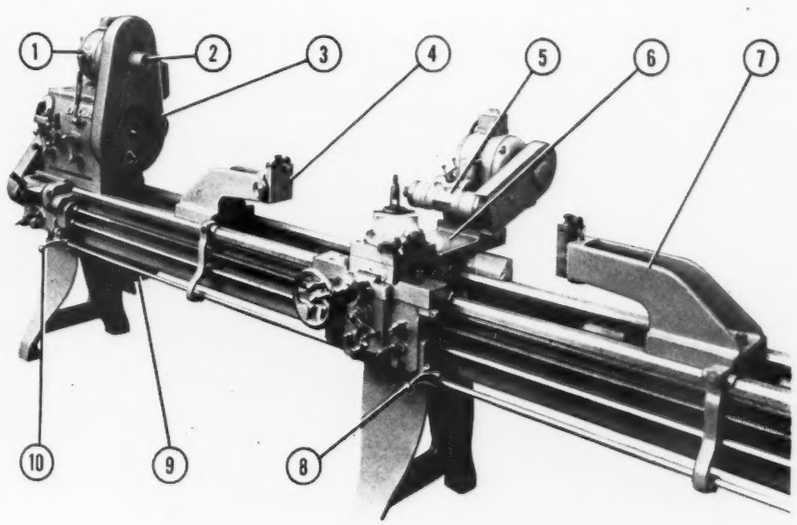
Manufacturer claims the fibers are small enough and flexible enough to get down into the dots of the finest screen. Manufacturer also states the brush will clean the surface of the plate or type without scratching deep enough to harm the surface. The Rush Fybrglass plate brush is designed to use with water or ordinary ink solvents. Further information may be secured upon request to *Printing Equipment Engineer*.

Plate brush made of Rush Fybrglass to clean plates and type matter.

Two-Purpose Lathe

A TWO-PURPOSE lathe which polishes rubber printing rollers and also performs standard engine lathe metal turning as well, has been announced by the R. K. LeBlond Machine Tool Co. The Regal Rubber Roller Polishing Machine, although designed for polishing rubber rollers, may be used also for standard engine lathe turning.

The grinding action at 4125 r.p.m. is obtained through a special variable pitch drive which revolves the roller clockwise, while a 2 h.p. 2325 r.p.m. grinder rotates in the opposite direction. Special accessories are provided for driving and supporting the roller.



DUAL-PURPOSE LEBLOND REGAL LATHE—19 in. (raised) by 150 in. For polishing Rubber Printing Rollers, and For Standard Engine Lathe Turning.

LeBlond Regals are available in six swing sizes—from 13 in. to 24 in.—but the polishing machine is usually built on the 19 in. model which swings 19¼ in. over the ways with beds any length starting at 6 ft.

LeBlond Regals are built with eight-speed geared headstock, quick change box, leadscrew and feed rod, one-piece apron with positive jaw feed clutch, one-shot lubrication to apron, carriage, and bed ways. Complete motor drive, including main drive motor, is furnished as standard equipment on all models.

Numbers in the accompanying illustration are identified as follows:

1.—Special 1 h.p. 1800 r.p.m. motor.
2.—Variable speed pulley (350 to 1050 r.p.m.).
3.—Direct V belt drive to face plate.
4.—Special steady rest for seating steel core of roller.
5.—2 h.p. 2325 r.p.m. grinder fitted on cross slide.
6.—Special heavy cross slide.
7.—Special steady rest for seating steel core of roller.
8.—Apron electric control for main drive motor.
9.—Standard 2 h.p. 1800 r.p.m. main drive motor.
10.—Electric control for main drive motor.

Further information on the rubber roller polishing machine may be obtained by writing *Printing Equipment Engineer*.

Masking Method and Developer

AN IMPROVED and faster method of masking for color correction when making color separations, and a new Fine Line developer for exacting and critical fine line work, have just been announced by the Graphic Arts Sales Division of the Eastman Kodak Co.

The Kodak Magenta Masking Method, states manufacturer, involves the use of a magenta dye image mask in the camera, not in contact with the separation negative material. The technique involves keeping the mask in the camera during the entire exposure of the separation.

The mask itself consists of a relatively low contrast magenta colored dye negative image which is produced by exposing a Kodak Panchromatic Plate in the camera through the proper filter (red or green), and developing in Kodak Magenta Developer. After bleaching out the silver, the magenta dye image remains. The plate on which the mask is to be made is usually placed in the halftone screen holder at a distance of approximately ⅛ in. ahead of the separation material. After processing it is returned to exactly the same position—so as to register with the image of the original subject—and the separation negatives are made through the conventional filters, except in the case of the "blue" printer negative which is made without any mask in place.

As produced, the separation negatives are color corrected by this process, and, no difficult register problems are involved.

Developer Aids Critical Work—The new Kodalith Fine Line Developer was cre-

ated primarily to enable photomechanical workers to reproduce extremely fine line copy with greater accuracy and completeness than was formerly possible. In conventional photomechanical procedures used in the past with fine line subjects, it was extremely difficult to obtain sufficient density in the negative without losing many of the fine lines as a result of density being built up by developer action to a point where it was impossible to reproduce the lines correctly. This developer eliminates this condition to a very large degree. The process is based on the Eberhard effect which has been known for many years.

The new developer is distinctly a special purpose product and in no way supplants the standard Kodalith Developer for general photomechanical use.

View of Select-A-Type which in its simple slide rule form is used to determine the character count for any measure from 5 picas to 30 picas. With it can be scaled any of more than 650 different sizes and styles of type. Case size is 4⅛ in. high by 10⅜ in. wide. Fabricated from stout cardboard.
Designed for use by printing executives, art and layout men, and by skilled typographers.

Simple Type Slide Rule

A NEW slant on type face computation is provided by the Select-A-Type, recently introduced the advertising typography firm of Craftsman Type. It consists of a stout white cardboard slide sheathed within a die-cut holder. The device measures 4⅛ in. high by 10⅜ in. wide. The sheath or cover is fabricated from stiff board put together with brass grommets.

The pocket-size Select-A-Type scales quickly any of more than 650 different sizes and styles of type. It is so engineered that the user registers two arrows (the size of type with the style of type) to obtain character count reading for any measure from 5 picas to 36 picas.

E. J. Keck of Craftsman Type is co-inventor with Consulting Engineer W. A. Thomas of Chicago.

Features of the Select-A-Type are an automatic cross-indexing arrangement which shows the user, once he has a reading on a certain size and style of type, the many other sizes and styles of type that have the same character count; the use of Select-A-Type in reverse shows the user the many type faces that will fit a given layout when the number of copy characters is known.

Operation of Select-A-Type is simple. There are three operations: (1) Select the style of type you want to use from the black alphabetical listing on either side of the case; (2) Move the slide to register the size of arrow with the kind of type selected, and (3) See the number of characters in the white column on the left for any pica width of layout selected.

Further information about Select-A-Type may be obtained by addressing your request to Craftsman Type or to *Printing Equipment Engineer*.

Kodak Films For Graphic Arts

TO PROVIDE comprehensive information on its specialized films for the Graphic Arts, the Eastman Kodak Co. has published a new booklet, *Kodak Films for the Graphic Arts*. Covering Kodak, Kodalith, and Kodaline Films, the booklet points out the differences in the characteristics of Kodak films for the Graphic Arts and is a demonstration of how the various products may be used. Illustrations chosen to represent the most difficult type of tone work for each particular film. Descriptions cover both photographic characteristics such as contrast, color sensitivity, and speed, and physical characteristics including such specifications as thickness of the film base, drying qualities, and scribing ability. Write direct to Graphic Arts Sales Division, Eastman Kodak Co., Rochester 4, N. Y.

Testing and Measuring Equipment Catalog

A COPY of the illustrated 48 page catalog of *Specialized Testing and Measuring Equipment* Catalog, published by General Electric Co., has been received. It is numbered GEA-639. In the book is given information about 90 equipments for specialized testing and measuring in science and industry. In the various sections or chapters are described magnetic equipment; time, speed, and torque measuring equipment; force, strain and thickness gauges; color, light and spectro equipment; chemical analysis equipment; resistance and insulation testing equipment; materials testing equipment; vibration, sound and balancing equipment; vacuum and pressure measuring equipment; electric circuit testing equipment, and a miscellaneous section.

Specifically, magnetizers, demagnetizers, tachometers, time interval meters, spectrophotometer, exposure meters, lightmeters, Luckiesh-Taylor brightness meter, voltmeters, and a number of other instruments more or less used in the Graphic Arts industries are described and illustrated.

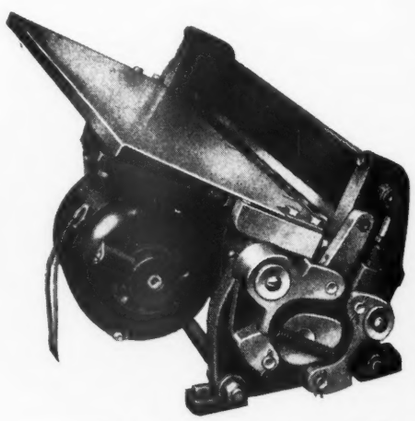
Mention Bulletin No. GEA-639 when sending your request to *Printing Equipment Engineer*.

Two Paper Cutters

TWO paper cutters, the Lawson 46 and 52, were introduced recently by the E. P. Lawson Co. The cutters are so named because they measure 46 and 52 in. between uprights, and will handle stock 45 in. and 50 in. respectively. Equipped with adjustable hydraulic clamp. Clamp pressure is applied with a 5 in. clamp. Optional features are motor-operated back gauge with push-button control and automatic spacing device. Further information may be secured from *Printing Equipment Engineer*.

Steubing Electric Metal Edger

THE Steubing Electric Metal Edger is designed to clamp metal slides on top and bottom edges of calendars, hangers, charts and the like. This operation variously has been called tin mounting, metal edging or calendar hanger application. On the Steubing machine, the operator feeds the metal slides and sheets into the machine and then trips a foot-pedal to start the motor into action. Manufacturer states this equipment has same positive folding action as provided on that company's automatic tin

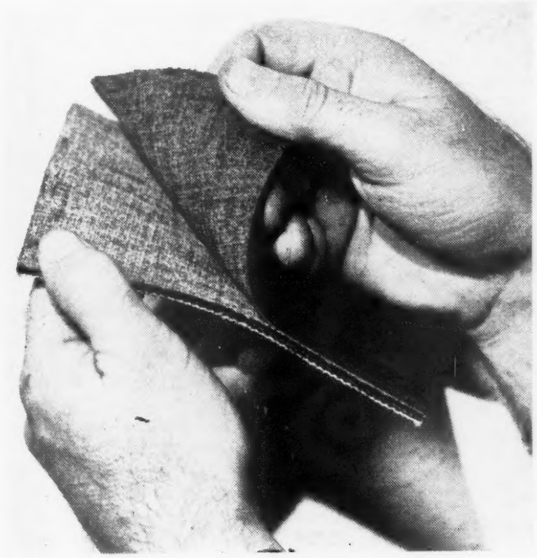


mounter. Mounting time is stated to be less than ⅔ sec. Motor power assures uniformity of fold and pressure.

The Steubing Electric Metal Edger is bench model and is made in three

models: Model EL-20 handles sheets up to 20 in. width; dimensions, length 29 in. width 14 in., height 9 in. Model EL-30 handles sheets up to 30 in. width; dimensions, length 37 in., width 15 in. and height 11 in. Model EL-36 handles sheets up to 36 in. width; dimensions, length 43 in., width 15 in., and height 11 in.

Adjustable feed gauge and attached feed table permit obtaining accurate register. Sheet is not turned over during folding action. Adjustable for single and multiple sheet work. Foot treadle adjustable for any height work table. Further information may be obtained by addressing *Printing Equipment Engineer*.



Goodyear's newly announced engravers' gum for making printing plates features a red strip ply to facilitate uniform stripping off of non-printing areas.

Red Strip Ply Gum

AN ENGRAVING gum, featuring a red strip ply to facilitate uniform stripping of non-printing areas in printing plates, is announced by Goodyear Tire & Rubber Co.'s Mechanical Goods Div. Designed especially for the box, bag and paper products printing industry, the gum is of standard three-ply construction with an additional inner strip of acid and oil resistant rubber.

This special insert, made of rubberized fabric, permits the hand engraver to strip cleanly without peeling, regardless of cutting depth, according to E. R. Coate of Goodyear's printers supplies department.

Available in two styles, blue-gray or black face with either friction or buffed rubber backing, the red strip gum is being produced in 40 in. widths, 5 yds. long, in ¼ in. and 5/16 in. gauges. Durometer hardness ranges from 25 to 75.

Photo-engravers' Plate Beveler

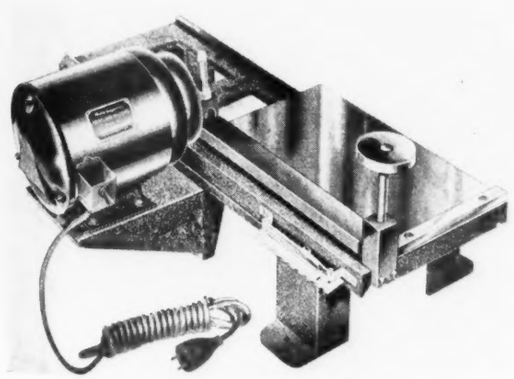
A PHOTO-ENGRAVERS' Plate Beveler (or plate flanging machine as it is known in some plants), has been developed by E. E. Augustine. A bevel may be cut on copper, zinc and other plate stock to provide a means of nailing the plate to the block. An improved clamp holds the plate with ample pressure to prevent slipping and is faced with leather to avoid scratching or damaging the plate face. The large knob shown in the accompanying illustration is used to operate the clamp bar which holds the plate. When the knob is screwed down, the bar is pressed against the face of the plate.

Plates as small as ¾ in. or as large as 12 in. may be beveled on this machine.

Diameter of the rotary cutting tool is 4 in. It is designed for long wear.

Machine is equipped with ¼ h.p., 60 cy. a.c. motor.

Further information may be obtained by addressing your request to *Printing Equipment Engineer*.



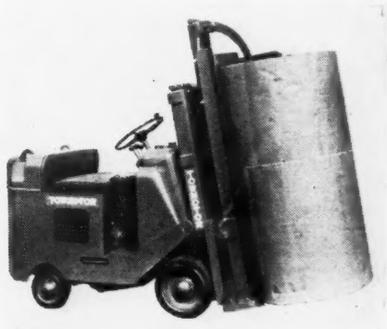
View of Augustine Plate Beveler for Photo-engravers. Will bevel plates as small as ¾ in. up to as large as 12 in.

Roll Clamp on Fork Lift Truck

USERS of newsprint delivered in rolls in railway freight cars must jar the rolls loose in order to unload them from the cars, due to the tendency of the rolls to wedge together in transit. The Roll Clamp has been designed by Towmotor Corp. to facilitate handling such rolls.

The accessory consists of a blade at the bottom, which is inserted beneath the roll, a cradle-type backrest provides curved support to the roll while it is being handled on the fork lift truck, an hydraulically-operated clamp (at the top of the roll) which is raised and lowered by the lift truck operator. The accessory is raised and lowered in the same manner as the standard fork lift truck carriage, and provides for high-stacking of rolls of paper on end to conserve storage space.

The roll clamping plate is 20 in. in diam. It is lowered hydraulically when



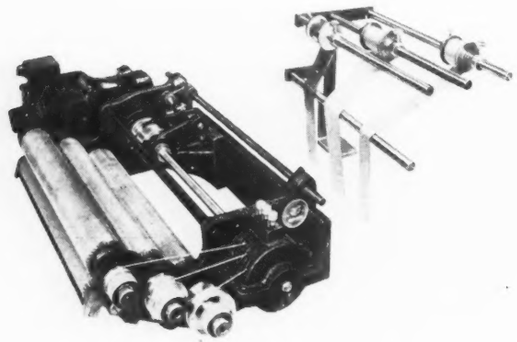
the clamping action is to take place. The roll clamp has been designed to handle rolls with a maximum length of 76 in. Adjustable extensions permit handling of smaller rolls. Complete information may be secured upon request to *Printing Equipment Engineer*.

Resin-Latex Label Adhesive

A SYNTHETIC resin-latex emulsion cement has been produced by Paisley Products, Inc., which it is claimed, permanently adheres ungummed paper labels to a wide variety of surfaces and surface finishes. Designated No. 1707 by the makers, it is being offered for fastening instruction labels, circuit diagrams, caution and brand labels to electrolytic tin plate, terne plate, varnished, lacquered, painted and enameled surfaces. Also suitable for many combining and laminating operations on similar and dissimilar materials, such as cork to metal, felt to cardboard, paper to glass, ceramics, many plastics and other applications. Typical field uses include labeling of refrigerators, household appliances, radio chassis, tin cans, lacquered pails and drums, over printed areas of folding cartons and displays.

It is claimed that paper labels, when pasted on painted test panels with this adhesive, maintain good adherence to the specified surface when aged at 225 deg. F. for 7 days and when exposed for 100 hours at 100% relative humidity at 100 deg. F. After air drying, it produces

no objectionable odor when the panel is sealed in an airtight container at 100 deg. F. for 24 hours. No harmful effects are observed on the specified surfaces. The adhesive can be reduced with water or used as received. Application is by hand brushing or with table model gumming machines.



View of Peerless Roll Leaf Feeding Attachment. May be attached to presses like Chandler & Price, Kluge, Colt's Armory. At left is view of 3-draw model with rollers and adjusting dials. At right is shown roll lead holder with supporting brackets.

Roll Leaf Feeding Attachment

A NEW Roll Leaf Feeding Attachment developed by Peerless Roll Leaf Co., Inc., makes it possible to stamp or emboss as many as three different colors of roll leaf in the same operation. The attachment consists of three sets of rollers operated by a cable drive, with each roller independently adjustable, together with a roll leaf holder with brackets. The attachment is designed for installation on presses such as the Sheridan and Krause and on platen presses such as the Chandler & Price, Colt's Armory, Kluge, and the like.

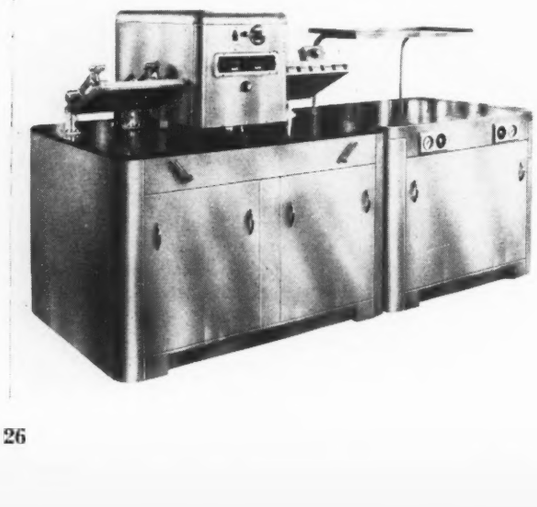
With the Peerless attachment the average pressman can stamp or emboss book and catalog covers, box wraps, menu covers, announcements, letterheads, cards, etc. The process is a combination of engraving and printing methods. Roll leaf hot stamping is like printing in that the work can be done on ordinary platen presses at printing speeds and like engraving and embossing as far as results are concerned. A heated brass or steel die or type strikes the surface to be stamped through this web of roll leaf. In this single operation, the color and the design or lettering are transferred to the surface simultaneously. The unused color or foil remains on the web and is carried away as waste except in the case of genuine gold where the unused gold is reclaimed and used again. No drying time is required and the stamped cover, letterhead or card can be used immediately. In the case of a book or catalog cover it can be bound immediately after being stamped or embossed.

With this attachment the operator can feed three rolls of leaf of different widths, each roll being fed any desired distance up to 12 in. The length of pull is adjusted to ⅛ in. graduations. The unit is operated by 1/12 h.p. motor. Where the press permits the installation of a Duplex or Criss-cross Feeder consisting of two Peerless 3-Draw Attachments, it is possible to stamp the entire border of a book cover or a box top in one press operation. The attachments are available in two widths, 15 in. and 22 in.

Commercial Electrotype Molding Equipment

A STAINLESS steel-enclosed thermoplastic molding press for making plastic mold electrotypes—Model 202—has been developed for commercial platemaking foundries by the Monomelt Co. This press is designed to provide rapid handling of the bulk of odd-sized originals presented to commercial plants.

The press is claimed to provide accurate reproduction equal to the best lead molds. Advantages claimed for plastic mold electrotyping are the multiple electros which can be made from the same mold. The mold is stripped off the shell and re-plated. Simplified filing of plastic molds eliminates standing forms, cuts down on metal inventories and required storage space. A feature of the Model 202 is the Depthometer, a Monomelt innovation which permits pre-setting of molding depth for each individual form—and molding exactly to that depth regardless of the thickness of the molding "sandwich."



View of Monomelt's stainless steel-enclosed thermoplastic molding press for commercial electrotype work. Also is basic equipment for making plastic printing plates.

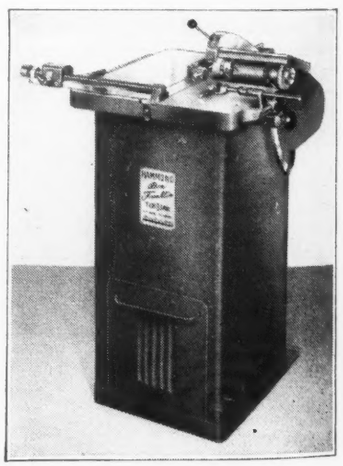
Basic steps in the plastic mold electrotyping process include tempering of the composite form on an accessory two-platen tempering table, also made of corrosion-proof stainless steel. Preheating and softening of the plastic sheet takes place in the first press section, where an air-operated, electrically-heated platen is lowered to the form. Operator then slides the form into the hydraulic press section, backs up the plastic with a blanket, pre-sets the automatic Depthometer to the desired depth and closes the press with a push-button control. The "sandwich" then slides into the cooling section, where the water-cooled platen is lowered mechanically to harden and set the plastic. The mold is then ready for finishing operations: washing, sensitizing and silver spraying. From there the mold goes to the plating tank, the same as in wax or lead electrotyping.

Hot or cold temperatures can be maintained on the upper and lower press platens with electric heating elements or water cooling. This provides basic equipment for making plastic printing plates.

Hammond TrimOSaw

THE Hammond Ben Franklin TrimOsaw has been designed for the smaller plant. The surface ground table has capacity for sawing full-page type-high stereotypes.

It is equipped with a 75 pica calibrated micrometer gauge. Workholder clamp holds as short as 9 pt. Clamp opening capacity is 36 picas. Saw blades are changed by a single lock-bolt through the center of the arbor. Saw arbor is adjustable.



The Ben Franklin TrimOsaw, manufacturer states, will miter 16 six pt. borders (or equivalent) of any length. Further information may be secured upon request to *Printing Equipment Engineer.*

Transparent Celanese Celluloid is used in pneumatic dispatch carriers, manufactured by the Grover Co. The carriers provide visibility and prevent the overlooking of contents. The body of the containers is shatterproof and manufacturer claims it will withstand the hard knocks of a busy system. Snap-locking covers are claimed to hold contents securely. Additional information may be secured from *Printing Equipment Engineer*.

Futura Type Faces

NEW additions to the Futura family, announced by Intertype Corp., are 18 and 24 pt. Futura Bold with Oblique, 24 pt. Futura Demibold with Oblique, and the 30 pt., sizes of Futura Demibold Oblique, Futura Medium, and Futura Medium Oblique. These additions to the Futura family are shown below:

ABabcde234

30 Pt. Futura Medium

AB abcde 234

30 Pt. Futura Medium Oblique

ABCabcdefg234

ABCabcdefg234

24 Pt. Futura Demibold with Oblique

ABabcde234

30 Pt. Futura Demibold Oblique

ABCD abcdefghi 234

ABCD abcdefghi 234

18 Pt. Futura Bold with Oblique

ABCabcde234

ABCabcde234

24 Pt. Futura Bold with Oblique

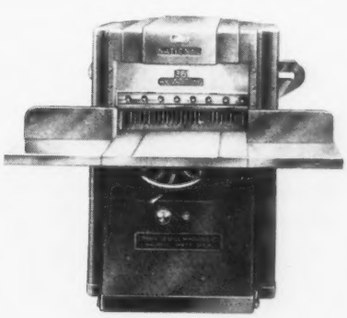
ATF Catalog

A NEW 162-page catalog of its different items of printing supplies is now being sent out to the Graphic Arts trade by American Type Founders Corp. In the catalog are given descriptions of ATF offset and letter presses and other heavy machinery. Type and printers' accessories from ATF's own plants and the major items manufactured by the some 300 companies for which ATF acts as distributor are also listed. Forty-five thousand catalogs are being distributed to printers.

Hydraulic Paper Cutter

A CUTTER featuring hydraulic power has been announced by the National Cutter Div. of the Frank M. Hill Machine Co. Pressure of the clamp is variable, being adjusted by a small knurled wheel at the front of the cutter. A dial beside the adjusting wheel registers the working pressure of the clamp. This feature is used when cutting operations vary from soft chocolate-box padding, for instance, to hard paper board. The clamp is manually operated, independently, or with the knife, and covers the knife so that the latter is at no time exposed when cutting.

The manufacturer states the knife is operated manually in conjunction with the paper, this two-hand operation assuring safety for the operator. The cutter will not repeat. A hydraulic valve provides overload protection. The closed knife-bar slot, it is claimed, reduces spoilage. Adjustment of the knife to the cutting stick may be done quickly.



Front view of National Hydraulic 36 in. paper cutter recently announced by Frank M. Hill Machine Co. Knurled wheel at front provides variable pressure of the clamp. Overload protection is provided by hydraulic valve.

Conversion from shear-cutting to vertical-cutting may be accomplished in 15 min. The vertical cutting action permits many cuts otherwise done with special dies, such as index tabs, pinking and scalloped edges.

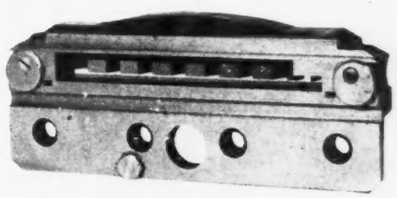
H. H. LeBlanc, Sales Manager, said that the new National 36 in. Hydraulic will be available only in the 36 in. size.

The Linotype Line

MERGENTHALER Linotype Co. announces publication of a new catalog entitled *The Linotype Line*. The booklet consists of 16 pages, 8½ in. by 11 in., and is well illustrated. Company's nine current model Linotypes are illustrated and described. Specifications and capacities of each are given. Extra equipment is explained as are the mechanical features of Blue Streak models. A copy of the catalog may be obtained from Mergenthaler Linotype Co. direct or through *Printing Equipment Engineer*.

Dixie Type Purchases

The Dixie Type and Supply Co. of Birmingham, Ala. announces the purchase of the patents, patent rights, inventories, tooling and all other assets of Ashton G. Stevenson, Inc. Dixie Type will build and service all the Stevenson products, including special molds for



Linotype and Intertype machines. With the Stevenson furniture mold users may cast furniture and spacing material in 6 to 36 pt. sizes and in various heights suitable for quads, Ludlow underpinning, patent base and also for mounting electros, zinc and copper plates. The mold fits any headletter pocket on the mold disk.

INMC Elect Officers

The Illinois Newspaper Mechanical Conference, at its meeting in Peoria, Ill., on October 12, elected the following officers and directors:

President — Earl Anderson, Supt., Rockford (Ill.) Consolidated Newspapers.

Vice President — John Orlebecke, Danville (Ill.) *Commercial-News*.

Secretary - Treasurer — Howard R. Colton, Press-Stereo Supt., Bloomington (Ill.) *Pantagraph*.

Board of Directors—Alex Massengale, Composing Room Supt., Peoria Newspapers, Inc.; Clarence R. Snethen, Supt., Waukegan (Ill.) *News-Sun*; Edward Raymond, DeKalb (Ill.) *Daily Chronicle*; Wilbur Augspurher, Peoria Newspapers, Inc.; Clifford Entler, Machinist, Decatur (Ill.) *Herald-Review*; Ralph Skinner, Peoria Newspapers, Inc.

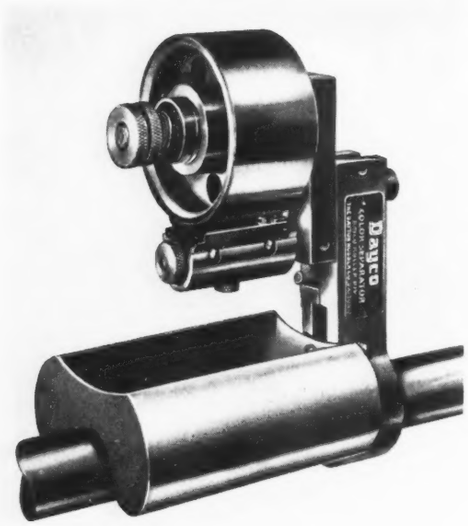


Fig. 1.—This is a view of the Dayton Rubber Co.'s Dayco Color Separator which is used to clean ink from the printing press rider rollers during split fountain runs (one or more colors with black). Through the use of this device, the cutting of inking rollers is eliminated.

The unit shown here is mounted on a press. Tie rod or shaft and the frame clamp is securely fastened in place. The device is adjustable for position.

In operation, the roller shown above contacts the form rider roller and removes ink from the rider roller through contact of its flat face. In turn, the two safety razor blades beneath the flat-faced unit roller constantly scrape the face of the unit roller free of ink; the ink drips down into the small pan on the tie rod beneath the unit assembly.

The face of the unit roller may be either 1¼ in. or 1½ in. wide according to the width necessary to keep the two colors of inks from running together. Automatically, the Color Separator unit roller picks up ink from the rider rollers and cleans all other rollers back to the ink fountain.

The Dayco method is based on the principle that printing ink creeps toward the areas where there is little or no ink on the rider roller, the flat-faced unit roller (being constantly scraped clean by the razor blades) keeping the form rollers entirely clear of ink where two colors of ink otherwise would overlap.

Dayco Color Separator

THE principle that ink on a roller creeps toward those places where there is little or no ink led to the development of a device for running two or more colors simultaneously on printing press split color runs. The Dayton Rubber Co. is introducing the Dayco Color Separator to the trade. The Color Separator is a precision built mechanical device, is claimed to be durable and easy to install. Substantial savings from this device are claimed in rollers, in makeready time, paper and press runs.

It is said the Dayco Color Separator will work with any type of roller that is serviceable and accurate in circumference. Mounted on the press shaft or tie rod that lifts the form rollers, the Color Separator picks up ink from the rider rollers and automatically cleans all other rollers back to the ink fountain.

The unit can be installed on the press shaft quickly. Each Color Separator is ready to install and includes the basic assembly, one each 1¼ in. and 1½ in. wide unit roller, ink pan, two sets of shims and an Allen wrench.

Width of the split on the combination color runs can vary, but side oscillation of the vibration rollers is reduced as the width of the split is reduced. When 1 in. splits are desired, 1 in. unit rollers can be provided.

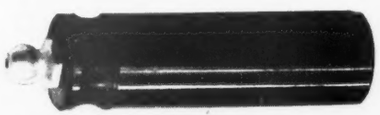
After the Color Separator is installed on the press shaft, the roller segment is inserted in the slot provided and a safety screw is set to keep the unit in place. The ink pan is then snapped into place underneath the roller segment. Ink scraped from the unit roller by the scraper blades drops into the ink pan. When full, the top liner on the inside of the pan can be removed in five seconds. This is normally required once in eight hours.

Manufacturer states the Color Separator does not interfere with normal operation of the press. When setting, removing or inserting press rollers, the unit swings back when the rollers are opened. Both double edge scraper blades can be changed quickly. Usually, the edges are reversed at the end of a day's work and the blades changed every two days.

The Dayco Color Separator is now available for all Miehle Cylinder Flat Bed Presses. Modifications are being completed for the adaptation on other types of presses. For the time being, and until the Color Separator is in large scale production, it is necessary to offer it to the trade on a controlled basis by sales districts.

Two New Items for Line Composing Machines

LINOTYPE PARTS CO. is introducing two new items for use in connection with line-composing machines. One of these is a Nylon-bristled magazine cleaning brush and the other is a pot cam roll pin equipped with Alemite hydraulic lubricating fitting. The magazine brush is supplied with the conventional type wooden handle. The brush part, however, is made with Nylon bristles. The bristles are flared out at the sides of the brush to a little greater length to permit reaching the bottom of the matrix channel which are located alongside the partitions. The shorter and heavier bristles permit thorough cleaning action to the depth of all the chan-



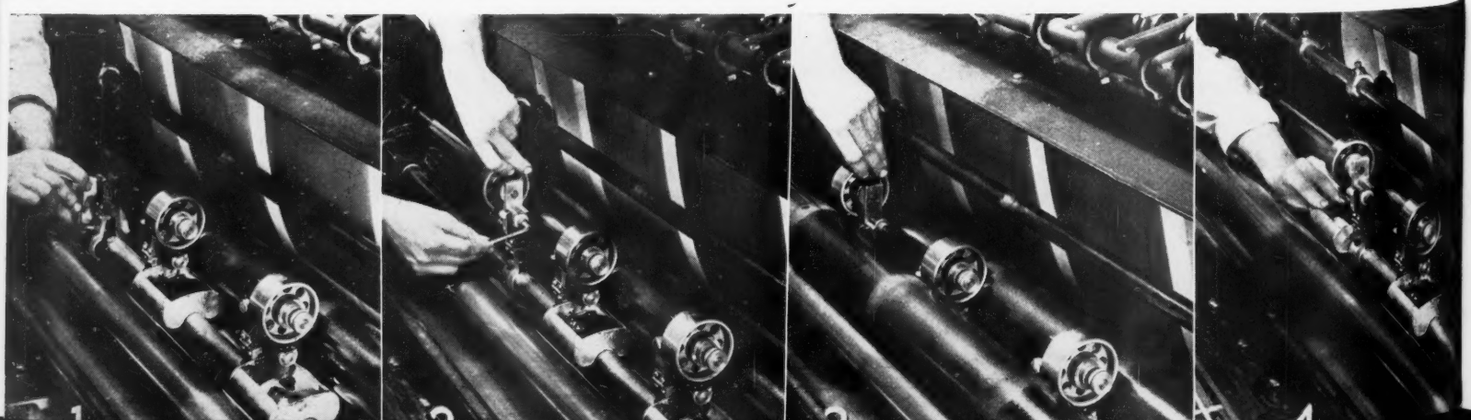
Griffith Pot Cam Roll Pin is now supplied with Alemite fitting through which lubricant is introduced to the pot cam roll assembly without removal from the machine.

Fig. 2.—Here the pressman is attaching the frame of one unit of the Dayco Color Separator to the shaft of a cylinder printing press. Notice that the frame is split, slips over the shaft and is clamped down tightly on the shaft by turning the Allen-head screw with wrench. This illustration is intended only to show method of attachment and operation. In the center is a Dayco Color Separator all set up and adjusted. Note that ink scraped from the Separator roller by the razor blades as shown in Fig. 1 has dropped down into the ink pan. The Separator at the right is ready for operation.

Fig. 3.—After the Dayco Color Separator has been applied as shown in Fig. 2, the pressman attaches the roller segment to the unit bracket. In this case, since the pressman is using one rider roller he adjusts the Separator roller to the one rider roller.

Fig. 4.—Here the pressman is adjusting the roller in the bracket of the Separator on a press in which two rider rollers are used.

Fig. 5.—In this view (press with one rider roller) the pressman has adjusted the Color Separator unit rollers with the press rider roller and is inserting the ink pan to the unit on the left.



nels. The Nylon bristles, states Linotype Parts, are impervious to the action of various chemicals used in cleaning magazines. Long life of the bristles also is claimed.

The Griffith Pot Cam Roll Pin conforms in every respect to the standard pin. The Griffith pin has been modified by two radially drilled holes in the center of the pin through which grease is fed to the pot cam roll assembly without the necessity for removing the roll from the machine in order to pack it with grease. A hole is drilled axially in the pin and an Alemite fitting attached to one end of the pin. The Alemite gun applies the grease to the roll through the fitting while the roller assembly remains on the machine. Further information may be obtained from Linotype Parts Co., Inc., direct, or through *Printing Equipment Engineer.*

G.E. Electronic Amplidyne

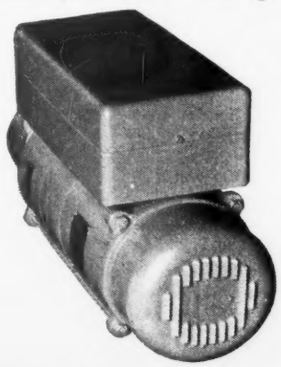
AN ELECTRONIC amplidyne consisting of a high-gain balanced d.c. electronic amplifier and a motor amplidyne has been announced by the Motor Divisions of the General Electric Co. The equipment is a high-capacity amplifier which is useful in many types of motor control where precise regulation of current, voltage, and speed is necessary.

Designed for use as a regulated adjustable-voltage power supply for d.c. motors up to 1½ h.p. and as a regulated exciter for larger adjustable-voltage drives up to 200 h.p., the equipment has an output of 1½ k.w., 250 v. It is arranged for use on either a 220 or 440 v., 3 ph., 60 cy. power supply.

The electronic amplidyne makes possible a speed range of 20 to 1 or greater. Manufacturer states it maintains speed closely at any setting, regardless of load conditions; it assures smooth, rapid acceleration and reduces starting shock on the driven machine by means of current limit control of acceleration and stalled current.

Quick stopping without undue stress to motor or driven load is provided by suicide braking utilizing current limited regeneration. The equipment satisfactorily maintains speed on overhauling loads where the motor is required to absorb power and act as a brake during part of the loading cycle. It is readily adaptable to programming and processing control.

Design features include a completely balanced amplifier which is insensitive to line voltage changes; an industrial electronic amplifier with hinged panel which provides easy access to all parts and connections; a circuit which is easily adjusted for various operating conditions, and a locking device which maintains settings once the circuit has been adjusted. Double end ventilation is provided.



Oblique end view of G.E.'s Amplidyne Power Package Unit with amplidyne, Exciter and Amplifier. Designed for use as a regulated adjustable voltage power supply for d.c. motors up to 1½ h.p. and as a regulated exciter for larger adjustable voltage drives up to 200 h.p. Output: 1500 w., 250 v., 6 amp. Input: 3 ph., 60 cy., 220 and 440 v.

Hand-Held Electric Tachometer

A HAND-HELD electric tachometer which weighs 3 lbs. has been announced by the Special Products Division of the General Electric Co. The instrument is designed to give accurate and direct readings of linear speeds from 10 to 10,000 f.p.m., and of rotational speeds from 100 to 10,000 r.p.m. Using accessories, rotational speeds from 10 to 100,000 r.p.m. may be measured.

Typical applications include measuring rotational speeds of motors, generators, turbines, and engines; measuring cutting speeds in f.p.m. on lathes and

milling machines; and measuring linear speeds of planer beds, shapers, band saws, and conveyor belts.

The tachometer consists of two units—the head, which is placed in contact with the moving object, and the indicating unit to which the head is attached by a flexible electric cable. Speed ranges can be changed while the spindle is rotating because there is no gear transmission to shift for various speed ranges. Accurate speed indications are assured by a low driving torque of only ¼ oz.-in. The instrument cannot be damaged by overspeeding.

Vibration from the rotating machine does not affect the reading or make the instrument difficult to read. The instrument can measure both clockwise and counter-clockwise rotation. It is furnished in a carrying case.

Additional information is given in Bulletin GEA 4895. Address your request to *Printing Equipment Engineer.*

Thermoplastic Adhesive Paper

A DELAYED action thermoplastic paper, Thermo-Kote of interest to labelers, bottlers, printers, lithographers and manufacturers of packaging machinery, has been announced by Nashua Gummed and Coated Paper Co. This new heat seal paper is preactivated by heat and is then applied under pressure. Thermo-Kote differs from conventional thermoplastics in that it activates at relatively low temperatures and remains tacky for several minutes after the removal of heat. Thermo-Kote can be used where the application of heat would affect product or package adversely. Manufacturer states this product has all the advantages of conventional thermoplastic papers including elimination of such variables as humidity, temperature, and consistency of water soluble adhesives as well as the problem of makeready and cleanup. Thermo-Kote (CM-1) is also produced as a water-resistant adhesive for bottling requirements where preservation of bottle identification against exposure to moisture is a requisite.

To the machine designer, Thermo-Kote's delayed action feature means that the resilient member, or label applicator, does not need to contain a heating element. Thermo-Kote is activated by the heating element, the label is then transferred to the pressure element or applicator, which applies the label to the product. A wide variety of labels can be completely activated within correct temperature ranges, and applied at high speeds to a diversified line of products. The independent resilient member or pressure applicator is not required to drive heat through the paper. Depending on the nature of the label (weight of raw stock, insulating properties, bulk and finish), activation can be performed over a wide range of time intervals, by regulating the distance each label travels over the heating element.

Complete activation can be insured by proper design of the heating element. Labeling speeds step ahead using a wide range of papers, because speed of the label applicator is not affected by the time required for heat to penetrate the label and activate the adhesive. Thermo-Kote also activates within definite temperature ranges. It does not block under normal storage or plant conditions, where temperatures do not exceed 125 deg. F. Recommended activation temperatures for Thermo-Kote are between 200 deg. and 275 deg. F. and application pressures between 5 and 30 lbs. p.s.i. Thermo-Kote can be applied to materials where water cannot be used. It can be printed on either side by any process where high temperature processing heats are not used.

Among other heat seal papers being developed by Nashua for industry is Thermo-Stix which is applied under heat and pressure on jobs where preactivation is impractical and where a firm bond is desired to lacquer coated surfaces, cellulose acetate coated products, self-sustaining films, cellophane, plain and clay coated papers, glassine, and other surfaces.

Speakers' Table at recent session of Milton Sales Forum in New York. The fourth gentleman from the left is Wade E. Griswold, Executive Director of Lithographic Technical Foundation, who delivered a paper prepared by Prof. Robert F. Reed, Director, Lithographic Technical Foundation research program. The others are all associated with Milton Paper Co., (from left to right): Alex Milton; Paul Marx, Vice President; S. A. Gifford, Secretary-Treasurer, who introduced Mr. Griswold; J. Milton, President and Sigmund Berger.

Paper

What happens when paper is printed upon by offset-lith process — Eight of the most common defects caused by paper

(Abstracted from paper prepared by Prof. Robert F. Reed, Director, Lithographic Technical Foundation research program. Paper was presented before Milton Paper Co. (New York N. Y.) Sales Forum, October 1947, by Wade E. Griswold, Executive Director, Lithographic Technical Foundation.)

YOU have probably wondered from time to time why lithographers in particular are often so fussy about the kind of papers they use. Perhaps you can understand why if we look at a list of a few of the more common paper troubles and let you draw your own conclusions.

1—The Drying of Ink on Paper

Not all ink drying troubles are caused by paper, but the chemical makeup of the paper can be very important. Paper effects drying in at least two ways. Its surface absorbency or permeability determines the rate of setting or absorption drying and the chemical properties of the paper—that is the alkalinity or acidity —retard or accelerate ink drying by oxidation.

On coated papers, the most important considerations are pH value (which is the measure of acid content) and its absorptive properties. If the coating is too acid, drying is retarded, especially in humid weather, and where absorbency is not uniform over the entire area, or varies from sheet to sheet, drying will not be uniform.

In the case of uncoated papers, the rate of drying of the ink will vary somewhat on different papers of the same type, as well as different types. This is largely because the absorbency of the sheet is not uniform and standard over its entire surface.

2—Scumming and Tinting:

This is a condition wherein the printed sheet comes off the press with a tint of color in areas where such a tint is uncalled for and very undesirable. Such scumming or tinting can be brought about in many ways, and one of the causes is paper.

You will remember that the part of the plate that is not to print, is water receptive. To help the water adhere to the plate, a thin film of gum is kept on the plate constantly, and acts as a bond between the metal and moisture. If this film is destroyed, the non-printing area becomes ink receptive and produces a tint on the finished sheet. The water receptive, protective film can easily be destroyed by abrasion or chemical action, either of which may have its origin in paper. If the paper contains a pigment which can be picked up by the blanket, the blanket surface becomes abrasive and destroys the plate's protective film. Excessive free alum in paper will cause scumming. Some coated stocks contain chemicals that are water soluble, and act as emulsifying agents between the ink and water. This material gradually accumulates in the dampening water until enough is present to produce an ink-in-water emulsion. This tinted water is transferred to the blank areas of the plate, causing a tint on the finished sheet. There is nothing that can be done to correct this condition once it gets started.

3—Chalking or Powdering:

There is just one fundamental cause of chalking or powdering. That is, too much of the ink vehicle is absorbed by the paper, leaving the pigment without sufficient drying medium to bind the pigment particles together, into a coherent and adherent film on the paper. Once chalking has taken place, about the only remedy is to run an overprint varnish either over the entire sheet or over the chalked color.

4—Picking and Splitting:

There are various types of splitting, all about equally detrimental to good work. One type of picking of uncoated papers, is when small flakes of the paper break away from the sheets and adhere to the blanket. In this case, the trouble is due to lack of sufficient internal bond strength in the sheet. These flakes may remain on the blanket during subsequent impressions, and cause poorly printed areas appearing as spots, as a result of poor ink transfer. Or, the flakes may be picked up by the plate, and from there get onto the inking rollers, forming a pulpy mass which shows up on the work as "hickies" or "spooks". On coated papers, picking may take place in any one of three ways:

(a) Lifting of flakes from the surface of the coating, which is caused by insufficient adhesive in the coating;

(b) Separation of the coating from the body stock, which occurs when the coating is not properly bonded to the body stock;

(c) Splitting of the body stock itself, which occurs when the internal bond strength of the body stock is insufficient to resist the pull of the ink or blanket as the sheet is peeled off the cylinder.

5—Curling of Paper:

A sheet of paper will be perfectly flat if the dimensions of its two sides in both the grain and cross directions are exactly equal. Any slight dimensional change will produce curl. There are many kinds of paper curl, but we will only cover the most common.

Some curling is caused in the mechanics of manufacturing the paper, such as reel curl, curl toward the wire side, and curl toward the felt side. Other kinds of curl are usually caused by a change in moisture content. When paper is made, it is produced with just the proper amount of moisture content to cause it to lie flat. Any change in moisture content, either through exposure to atmosphere or by picking up moisture during the printing operation, will cause the dimensions to change unevenly and produce paper that will not lie perfectly flat. The degree of curl produced usually depends on the amount of moisture added or taken away from the paper. A sled of paper that stands in a pressroom

whose relative humidity is considerably higher than the relative humidity of its manufacturing specifications, will develop curl because the edges of the sheet will take moisture from the air and become wavy. On the other hand, if the relative humidity of the pressroom is considerably lower than the paper, it will give up moisture to the pressroom atmosphere, and will develop a tight-edge curl. Either way, curled paper cannot be successfully printed upon, and the curl must be eliminated through conditioning to restore it to its original flatness.

A flat sheet that is fed through the press and comes out with a curl, is something else again. This time, the paper has picked up moisture from the press itself. This condition makes jogging difficult, but usually only lasts a short while if the press plate moisture is kept down to a minimum. On multi-colored jobs, this type of curl will cause misregister as the successive colors are added.

Coated stocks have their own little curling peculiarities. One sided coated stock will curl toward the coated side against the grain, away from the coated side, with the grain or toward the coated side with the grain. The first two conditions occur in paper that is too dry, while the third is evident in moist papers. The remedy again lies in reconditioning the paper to its proper r.h. and temperature.

As a result of paper curling, many plants have installed air conditioning in their pressrooms and paper storage rooms to be sure that the temperature and humidity are kept constant. Smaller plants have installed paper conditioning machines that will bring the paper to the proper humidity and temperature just before it is to be run on the press. Many paper suppliers will furnish paper that has been preconditioned to the requirements of individual lithographers.

Incidentally, we might add here that one of the first and best means of measuring the moisture content of a sled of paper, was developed by the Lithographic Technical Foundation. It is called the Paper Hygroscope, and is widely used throughout the industry.

6—Stretch and Shrinkage:

The inability of some papers to hold its original size can lead into many kinds of trouble. The problems we have just discussed relating to paper curl, tie in very closely with stretch and shrinkage.

As you will remember, the impression cylinder and the blanket cylinder exert a uniform squeeze along the entire surface of the sheet as it passes through. Therefore, paper that has developed wavy edges will be squeezed laterally along its entire surface toward the back edge. The slack is accumulated until enough is present to form a wrinkle in the sheet. Even if the sheet is not sufficiently distorted to cause a wrinkle, enough uniform squeeze is exerted at the back end to cause the image to spread, with the result that the finished print is wider than the plate image. This is called "Fanning". If the sheet is tight edged, the opposite happens. The back edge of the sheet is under tension as it received the impression, and the result is a short image on the back end of the sheet. This condition is called "drawing-in". Provided no wrinkling results, neither of these conditions is too serious in black and white work. In color work, however, it is quite serious, since in order to obtain register, exactly the same distortion must take place in each successive color.

Paper that picks up moisture from the press or from the atmosphere, will almost always stretch from front to back with the grain. A small amount of stretch may be compensated for by changing the ratio between cylinder diameters, but excessive stretch will not only be difficult to compensate for, but very often is not uniform from sheet to sheet.

Again, most of these difficulties can also be controlled by maintaining proper relative humidity and temperature in the pressroom, and by exercising extreme care in running it through the press.

7—Paper Static:

Static is an electrical charge that is built up in an object through friction, which gives the material an attraction for certain other materials. This condition is sometimes present when the feeding operations begin. If the paper is charged when it is removed from the feeder pile, some difficulty will be encountered in separating the sheets uniformly and in feeding them accurately to the guides. Another difficulty is in getting the sheets to jog evenly. Jogging is that operation at the delivery end, which causes the sheets to pile properly and uniformly. When static is present, as each successive sheet is delivered to the pile, it is held to the pile with such force that it cannot be moved into position by the jogging boards.

Also, this condition of intimate contact squeezes the air from between the sheets and causes two more troubles. With insufficient air trapped between the sheets, slow ink drying occurs, and intimate contact between the sheets causes offsetting on the backs of the successive sheets.

Static may be greatly reduced by the use of numerous static elimination devices, but when the paper is very dry, it is very difficult to make the electrical charge breakaway.

8—Misregister:

This term is used to describe a sheet on which the second, third or any successive color is out of place. Misregister is sometimes caused by using "feather-edged" paper. Such paper will not guide properly because it does not have a clean, blunt edge to rest against the guide stops. The feather-edge causes variation in the stopping point, as well as resistance to the sidewise movement necessary to squeeze the paper before it is pulled through the cylinders. A feather-edge on paper is generally caused by a dull knife and improper support from the cutting stick when the paper is being trimmed.

All paper for offset should be trimmed with straight edges and square corners. a bowed gripper edge will not properly contact the front guides of the press. If the corners are not square, side register will be affected. To avoid troubles of this type, the paper should be absolutely flat when trimmed, and the cutter knife should be sharp.

At this point, you are probably wondering how anything is ever accomplished in an industry where so many obstacles are encountered. There are many now, but there were more before, and each year brings us closer and closer to the answer.

A survey of representative lithographers, made by the Foundation in 1946, brought to light certain facts about the standards and characteristics of papers desired by them. From this survey we are listing the characteristics of paper that could be improved upon. They are:

1. Insufficient resistance to picking and peeling.
2. Tendency to curling.
3. Tendency to tearing-out.
4. Irregular effect on ink drying.
5. Too great dimensional charges.
6. Tendency to wavy edges.
7. Lack of sheet to sheet uniformity.
8. Wide variations in moisture content.
9. Wide variations in ink receptivity.
10. Interference with pH control.
11. Weak body stocks.
12. Insufficient opacity in light weights.
13. Insufficient whiteness.
14. Splitting and cracking.
15. Some coatings too water absorbent.

Officers of the Missouri Newspaper Mechanical Conference—Left to right: President, Beryl Troutman, Hannibal, (Mo.) *Courier-Post*; Vice President, Paul S. Ginn, Sedalia, Mo.; Secretary, O. K. Hammitt, Moberly, Mo.

Shown at left is Frank J. Schreiber, new Commissioner of the American Photo-engravers' Association. He succeeds Louis Flader (right) retiring Commissioner who has served the Association for 35 years. In center is Joseph Rosenberg, re-elected President of the Association.

Technology *of the Photo-engraving industry dominates Buffalo meeting of American Photo-Engravers' Association — New devices and new methods demonstrated — 41 exhibitors occupy 59 booths*

By J. S. MERTLE, FRPS, FPSA

THE 1947 convention of the American Photo-Engravers Association, held at the Hotel Statler in Buffalo from October 6 to 8, was an epochal event and momentous in several respects. It marked the Golden Anniversary of the organization and celebrated the first convention of photo-engravers held in the old Tifft House in Buffalo 50 years ago on October 6 and 7, 1897. The convention also marked the retirement of Louis Flader after 35 years of service as commissioner (executive secretary and business manager) of the Association.

While these were important historical events, the convention was technologically distinguished by a huge display of equipment and materials, also by numerous lectures on various phases of the graphic arts. The growth of photo-engraving is clearly indicated by comparative attendance figures: Only about 50 people attended the first convention, whereas the recent Buffalo gathering saw 830 registrants—606 men and 224 women. About 40 visitors from five different foreign countries attended the event.

Although this convention was not the largest in the history of the organization, it perhaps was foremost in technical exhibits. That the pendulum has swung in the other direction is evinced by the fact that at Buffalo a total of 41 exhibitors occupied 59 booths to show nearly every type of equipment employed for photo-engraving purposes. The booths were manned by 164 representatives of different equipment and supply houses.

The Exhibits

The largest exhibits were those of Consolidated Photo-Engravers Equipment Co., Chemco Photoproducts Co., American Type Founders, Vandercook & Sons, and the U. S. Stoneware Co.

While these concerns occupied the limelight by sheer size of display, the smaller exhibits were no whit less interesting. The exhibition was held on the 17th floor, but because of the architectural plan of Hotel Statler, the exhibits were not aligned as in a convention hall or auditorium, but were cut up into several sections. Had the 59 booths been arranged in two equal rows, the effect would have been even more impressive in size and scope.

As to the various products exhibited, these covered nearly the entire gamut of photo-engraving requirements. Arranged in alphabetical order, the following list includes some of the items and materials shown: Arc lamps, blocking lumber, burning-in stoves, cameras, camera lamps, chemicals, colorfilms and materials, color reproduction methods, color temperature controls, diaphragm controls, drawing materials, etching machines, exposure controls, films, halftone screens, magnifiers, metals, patent base, plate cleaners, process glue, proof presses, routers and numerous other items.

Space limitations forbid detailed attention to the products of any one exhibitor, and our remarks are therefore confined to those items possessing either originality or special interest to the trade.

Arc Lamps

There is a trend to streamline the design of arc lamps for both camera and printing purposes, to which the Macbeth Company has added the feature of controlling the quality of the emitted light.

Blocking Lumber

Blocking lumber was exhibited by a number of concerns (Hartley Akin; Tolerton; Wells), but because of the nature of this product, there is perhaps little room for decided improvement in the quality of the material. Like the proverbial wooden railroad tie, no satisfactory substitute has yet been found for blocking lumber; but the Tolerton Company announces a system of "electronic gluing" and claims it to insure accurate moisture control and minimum warpage. The claims are open to question: how can gluing by itself (no matter how performed) materially reduce warpage, and how can "moisture control" be attained by gluing? Moisture control means regulating the amount of atmospheric moisture absorbed by the cellulose structure (pores) of the wood—attempts to afford this control by impregnating blocking lumber with resinous or other impervious substances have not proven entirely effective.

Plate Mounting

Pertaining to plate mounting, an interesting innovation was displayed by the Lauck Mfg. Co. for rapidly cementing etchings to wooden and metal mounts. The process employs Bostik cement as the adhesive agent, the fluid cement applied to the wood or metal base by means of a simple coating machine, whereupon the etchings are heated and brought into contact with the cement-coated base by passage through a specially designed press.

Cameras

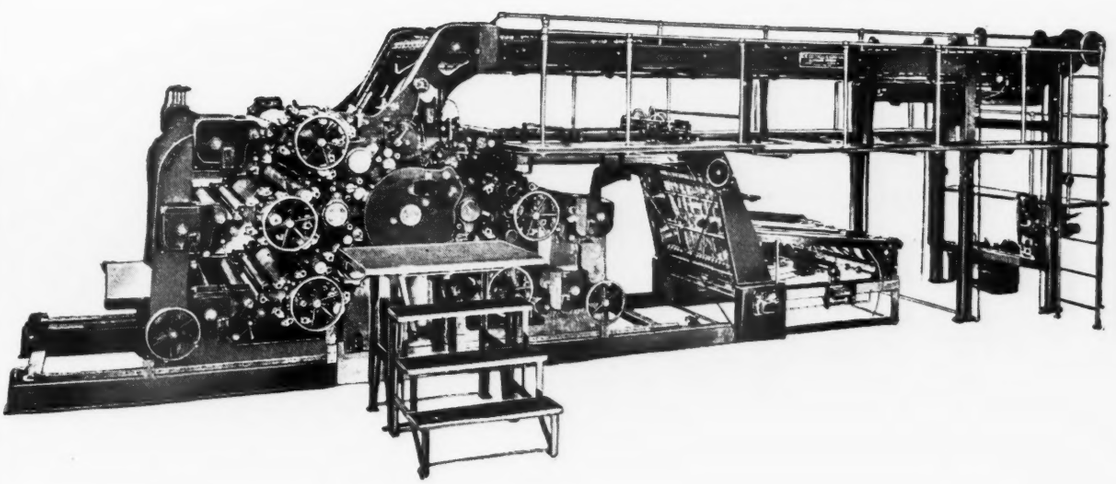
No piece of photo-mechanical equipment has seen greater progress and development than the process camera, and the equipment displayed by various manufacturers (American Type Founders; Chemco Photo-products Co.; Consolidated Photo-engravers Equipment Co.; R. R. Robertson) indisputably shows the popularity of the darkroom type of apparatus. Equipped with various auxiliary devices for accurate control and rapid operation, modern process cameras are a triumph of engineering skill and a far cry from the old rope-suspended "box" of early photo-engraving.

Designed either for rollfilm (Chemco) or fitted with vacuum backs (filmholders), the darkroom camera further dooms the wet collodion plate to obsolescence as a negative material for line

OR OUTSTANDING OLOR PRINTING

Specifically designed to easily meet modern color printing requirements, this Cottrell 36 x 48 Five Color Sheet-fed rotary press produces quality printing in five colors at speeds of up to 6000 sheets per hour . . . with maximum net production.

Its unusual speed and unsurpassed quality production combine to give this press performance characteristics of a high order. The overall result is *true economy*.



Cottrell

C. B. COTTRELL & SONS CO.

Westerly, Rhode Island

New York: 25 E. 26th St. • Clayburn Division: 3713 N. Humboldt Ave., Milwaukee, Wis.
Chicago: Daily News Bldg., 400 W. Madison St. • Smyth-Horne, Ltd., 13 Bedford Row, London W.C. 1, Eng.

Two visitors at the 50th Anniversary Convention of the American Photo-Engravers Association in Buffalo chat with Victor Hurst, (left) manager of Graphic Arts Sales Div., Eastman Kodak Co. They are A. L. Ross (center) and C. A. Hunting of R. R. Donnelley and Sons Co., Chicago.

and halftone photography. Its place in the process gallery is daily being encroached upon by stripfilm, and the next generation of process photographers will consider the wet collodion process as archaic as the daguerreotype.

Illuminants

New types of illuminants have been designed for process photography, the lamps intended for either the entire or supplementary exposures. For the latter purpose mention should be made of the special "purple light" lamps displayed by the Kemart Corporation. Consisting of an arrangement of fluorescing tubes encased in long glass (sleeve) filters, the lamps give off light rich in ultraviolet, and are intended for the supplementary exposures given to fluorescing originals prepared for the Kemart process of halftone reproduction.

Transparencies

The color worker was not neglected at the convention. Foremost in this field were the Kodak and Ansco concerns, who exhibited transparencies made on their respective colorfilms, also different photographic materials of use in color photography. The Kodak exhibit was particularly interesting in its display of reproductory results obtained with the various films and processes devised by the Eastman Kodak Co.

Color

Color reproduction also featured the display of Bourges, Inc., which concern offers Solotone and Colotone sheets for introduction of color into reproductions made from monochrome originals, also for alteration (correction) of existing colors in originals such as colorfilm transparencies. Bourges was a pioneer in the development of shading sheets, and his present materials are an improved adaptation of the shading sheet principle.

Diaphragm Controls

Diaphragm controls are optional equipment on all modern process cameras, but no new devices of this type were exhibited except the Lens-O-Matic apparatus of Willis N. Urie. In principle this is a modern version of the "blendensteller" (stop regulator) introduced in 1900 by Adolph Brandweiner, the device gradually closing the iris lens diaphragm during halftone exposures by means of a clock-driven mechanism. Urie effects closure of the diaphragm by electrical action and has introduced certain other improvements over the Brandweiner control.

Copy Preparation

Drawing materials might more properly be termed "copy preparation" because they are employed for the production of originals intended for photomechanical reproduction. In this category are included the previously mentioned Bourges items, also the various shading sheets and surfaces devised by the Craftint Manufacturing Company. The newest development in drawing materials are the special fluorescing papers introduced for the Kemart process, the papers impregnated with fluorescing chemicals which cause the surfaces to glow under the influence of light from the Kemart camera lamps. Kemart drawings entail little change in the technique of the artist and promote more faithful halftone and line reproductions.

Etching Machines

Machines for electrolytical and chemical etching were exhibited by a number of manufacturers (General Plate Makers Supply; Master, Robertson; U. S. Stoneware), but no radical departure in design and principle was apparent, excepting perhaps the Cyclospray copper etcher of the U. S. Stoneware Company. There was also shown a small model of an all-plastic etching machine, but credit for the first use (1947) of transparent sheet plastics in etching machine construction probably goes to the British firm of D. O. Nicoll, Ltd.

Nu-Etch

Alfred E. Dirkman displayed specimen halftone plates etched by his Nu-Etch procedure, which really is a form of mechanical staging because it involves application of a special composition to the partially etched plate. The treatment largely dispenses with staging and re-etching, and the results shown by Dirkman indicate his method to be superior to earlier processes of kindred type.

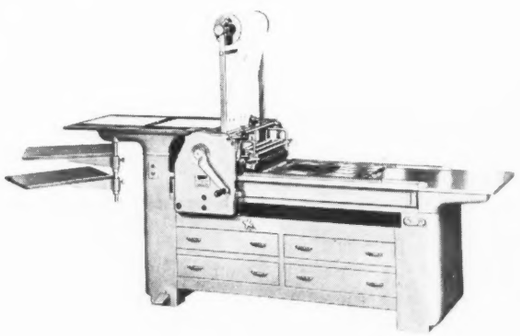
Exposure Control

Application of electronics to photomechanics is typified by the Luxometer exposure control of the Electronic Mechanical Products Co. It was also noted that the latest model Chemco stripfilm camera is fitted with a neatly designed photo-electric control for governing the length of camera exposures according to the volume (intensity) of light actually falling on the original.

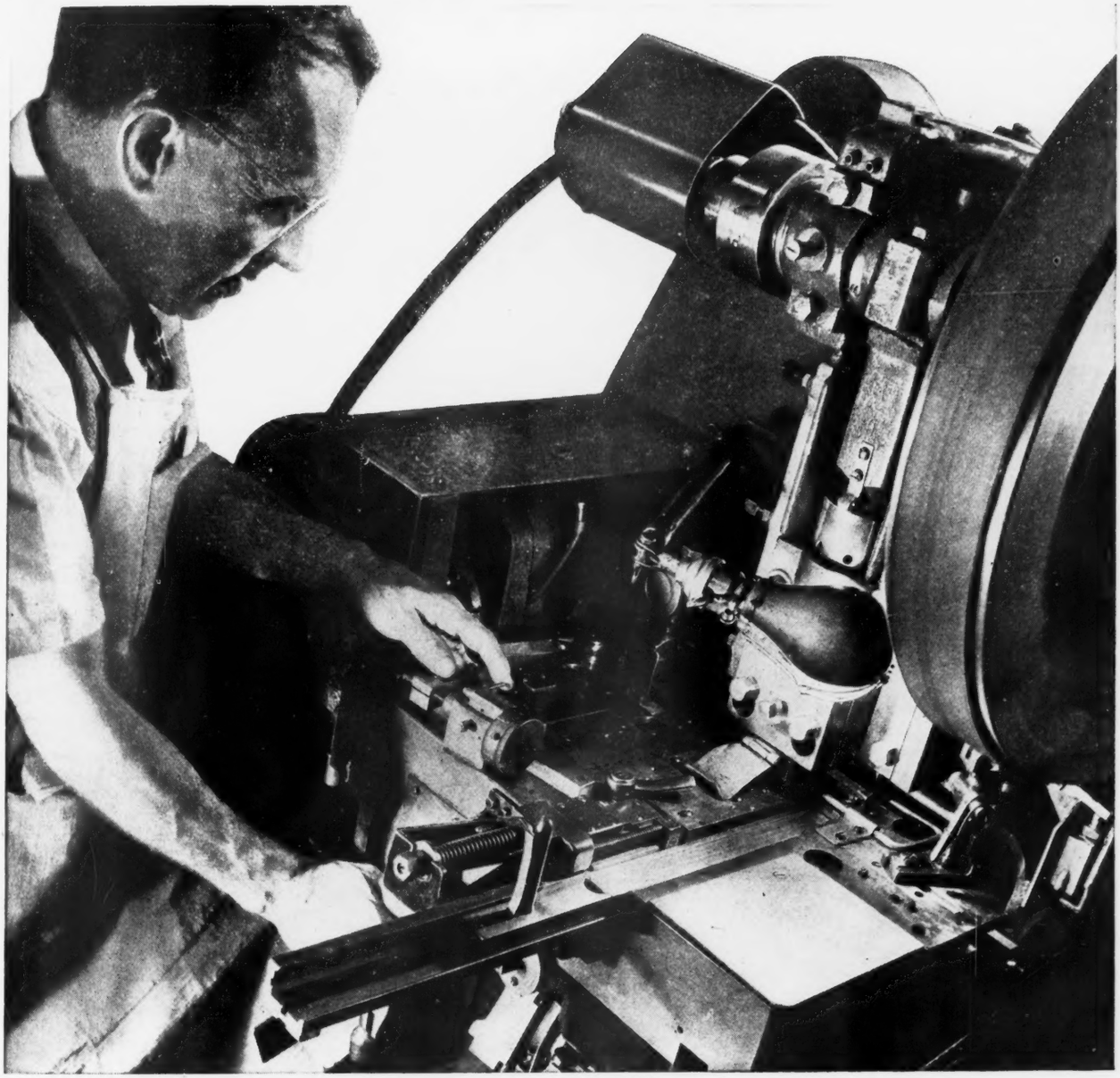
Screens

Halftone screens were displayed by the Moore Laboratories and by the Printing Arts Research Laboratories, Inc. The Moore concern exhibited its International and Duplex screens, whereas the Printing Arts Research organization showed its Chromatic screens, first an-

(*Continued on Page 50*)



One of the attractions in equipment exhibited at the recent Photo - Engravers Convention in Buffalo, N. Y., was the new and improved No. 219 Vandercook Proof Press. Among the improvements announced by manufacturer are (1) Single foot pedal which opens the grippers for feeding a sheet and also throws the cylinder on impression, (2) Lever to lengthen or shorten the travel of the cylinder from 25½ in. to 20 in., (3) Improved method of feeding fresh ink and improved ink distribution, and (4) New method for maintaining perfect register by means of four ball bearing rollers running against the rail on the underside of the bed.



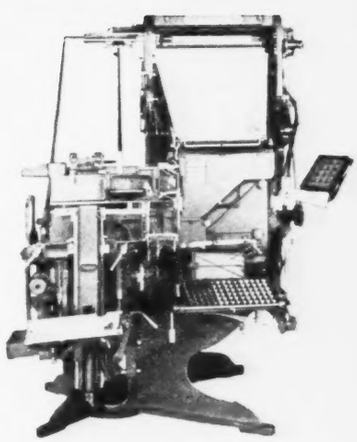
HOW TO DEVELOP CHARACTER

Dad used to do it with a hickory stick. But Linotype does it with punch presses that bat out thousands of matrices an hour. Each character is developed to perfection for it must pass fifty-four inspections during the process of manufacture. A matrix that isn't letter-perfect lands in the hellbox.

What's true of matrices is true of every other Linotype detail. Right now it would be particularly easy to say, "Let's make that production line move a little faster to meet the backlog of orders." But Linotype standards and precision equipment do not allow for sacrifice of time or tolerance.

For over sixty years Linotype has earned recognition for outstanding quality and dependable service. It's going to stay that way.

Mergenthaler Linotype Company
29 Ryerson Street, Brooklyn 5, New York



Linotype Electra and Memphis Extra Bold

Imprinting on Platen Press

THE usual custom for imprinting real heavy stock, catalogs or booklets on the C. & P. type of press is to glue some strawboard on the platen so it will come in contact with the roller bearers causing a bear off on the type. The more one builds up the platen the less squeeze on the type, but this causes more strain on the press. So here is how I do it:

First, I make the form ready just as if it were to run on regular weight of stock—say 20 lb. or 24 lb. Then, set the guides and lay a catalog or the heavy material that is to be printed up to the guides. Then close up the press with the impression level in the no-print position. Then with the press standing on dead center slowly pull the impression lever so it barely prints on the catalog. Now tighten the nut on which the impression lever centers—but be sure it is real tight; then run the press. It will not be necessary to trip the press because without any stock in the press the form won't touch the packing. There are several ways the same thing can be accomplished. One won't be able to use the counter, as every revolution counts. Since this work is done mostly on real heavy stock or the catalogs for imprinting come in packages already counted, it is easy to count out 50 or 100 and measure the balance.

If one had plenty of this work and would have to use a counter, then it would be advisable to drill holes for a stop pin for adjustability which in the crescent casting at the center of the end of the tripping mechanism. Just work the trip and you will see that this casting regulates the stopping of trip lever at each end.

A New Press... FOR THE
FINEST BLACK AND WHITE OR COLOR PROOFS
Here is a machine—the No. 219 Vandercook Proof Press—which has a proven record of performance among photo-engravers throughout the world for nearly 20 years. Now, greatly improved, it is faster, more simplified in operation, and capable of even finer proving.
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PRE-PRESS EQUIPMENT
VANDERCOOK & SONS, INC.
General Offices: 914 North Kilpatrick Avenue • Chicago 51, Illinois
SPECIFICATIONS
No. 219 Vandercook Proof Press
Bed Size....19"x42½"
Max. Sheet..18¾"x28"
Max. Form..18"x25½"
Floor Space .3' x 10'
Send information on new No. 219 Vandercook.
Send catalog of all Vandercook Proof Presses.
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Material Handling Expo of Interest to Executives

More than a dozen topics of vital interest to the lithographic, printing, publishing, paper and engraving fields will be discussed at the Conference on Materials Handling which will be a feature of the second National Materials Handling Exposition to be held at the Public Auditorium, Cleveland, O., Jan. 12 to 16, inclusive.

The major theme of the discussion is cost reduction through improved handling and discussion subjects have been selected for their widest appeal from the practical, operating standpoint.

Approximately 180 exhibitors will show hand trucks, lift trucks, conveyors, hoists, monorails, portable elevators, stacking units, tractors, trailers, fork trucks, skids, pallets and their respective accessories. A Materials Handling Theatre will exhibit films on handling subjects.

First Meeting in January

Because of the growth of the photo-engraving industry in the Southwest, the Southwestern Photo-engravers Association has been organized. The first semi-annual meeting will be held at Hotel Texas in Fort Worth on January 8, 9 and 10, 1948. The demand for photo-engraving services is the largest in the history of the Southwest. The first meeting will be devoted primarily to technical matters. The principal suppliers of the industry will have exhibits and demonstrations of their products. It is expected that 200 persons will attend from the six southwestern states represented in the association. R. C. Walker, Southwestern Engraving Co., Tulsa, Okla., is president, Virginia Nichols is executive secretary at 3621 Country Club Circle, Fort Worth 4, Tex.

Montreal Office

D. G. Black, General Sales Manager of the Syntron Company, announces establishment of a branch sales office in Montreal (Can.) at 4695 Sherbrooke St., W., under the supervision of C. F. A. Gray. This office will provide better sales and engineering service in Quebec and the Maritime Provinces. Another branch sales office is maintained at 2655 Bloor St., in Toronto under the direction of George Dranfield.

Ball and Roller Bearings Sales

Ball and roller bearings sales averaged more than $20 million a month during the first nine months of 1947, George Carleton, president of the Anti-Friction Bearing Mfrs. Association reported recently. This figure represents a 250 per cent increase in annual gross dollar sales volume of 1937. The use of anti-friction bearings in some machinery has trebled since prewar days. Mr. Carleton estimated his industry expects to achieve a gross dollar sales volume of $250 million for 1947.

FAST, ACCURATE ROTARY SHAVER

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PLANE-O-PLATE

SAVES PRESS TIME • IMPROVES PRINTING QUALITY

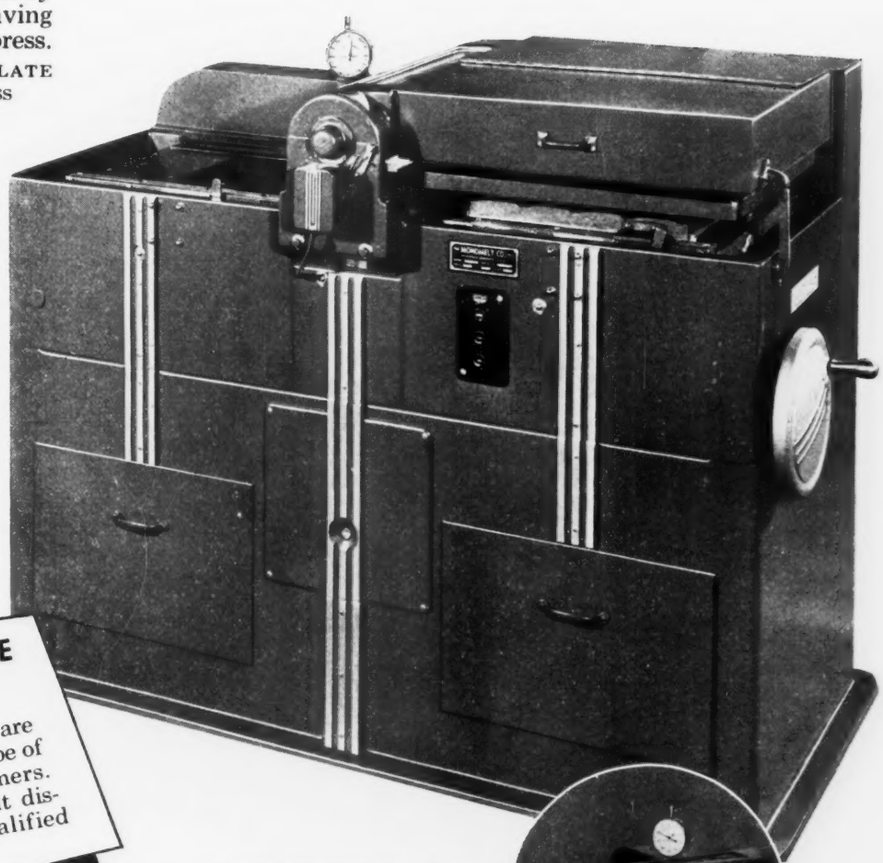
You can lick *most* of your makeready problems with fast, accurate shaving *before* you put the job on the press.

The Monomelt PLANE-O-PLATE Rotary Shaver saves valuable press time . . . shaves your plates to exact height for accurate reproduction . . . reduces wear on press blankets and tympans . . . adds to the life of plates on long runs.

Shaves Wood or Metal

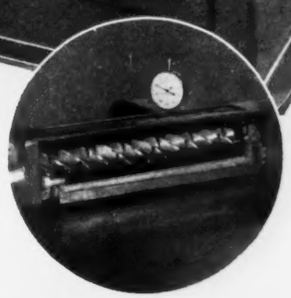
PLANE-O-PLATE shaves all flat work, metal or wood. Handles stereos, electros, zincs, stereo base and wood base—from .055" to over type high. Shaves plates up to newspaper size, or full bed of small plates. Rotary steel helical cutter leaves smooth, even surface . . . no buckling, biting or breaking.

Write Today for the new, illustrated folder on the PLANE-O-PLATE Shaver.



IMPORTANT MESSAGE TO DEALERS . . .

In selected territories there are excellent opportunities to be of service to your customers. Write for new Monomelt distributor plan for qualified dealers.



This one-piece rotary spiral cutter and shaft is accurately ground for high speed operation. Shaves either metal or wood.

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Conference Dates

(with organization names and principal officers.)

American Photo-Engravers Association — Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—William Penn Hotel, Pittsburgh, Pa., July 19, 20 and 21, 1948. J. L. Stackhouse, Chairman, Easton (Pa.) *Express;* Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference— Pantlind Hotel, Grand Rapids, Mich., Jan. 18, 19 and 20. President Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Secretary Al. P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

Illinois Newspaper Mechanical Conference—President, Earl Anderson, Supt., Rockford Consolidated Newspapers, Rockford, Ill. Secretary, Howard Colton, *Daily Pantagraph,* Bloomington, Ill.

International Association of Printing House Craftsmen — Hotel Cleveland, Cleveland, August 7, 8, 9, 10, 1948. Secretary, Pearl E. Oldt, Chamber of Commerce Bldg., 12th Floor, Cincinnati, Ohio.

International Typographic Composition Association—Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference—Russell-Lamson Hotel, Waterloo, Ia., May 15, 16 and 17, 1948. President, Ed. C. Funk, composing room foreman, Waterloo, (Ia.) *Daily Courier;* Secretary-Treasurer, Paul Kamler, mechanical supt., Clinton (Ia.) *Herald.*

Lithographers National Association—Greenbrier Hotel, White Sulphur Springs, W. Va., July 21, 22, 23 and 24, 1948. W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — President Beryl A. Troutman, *Courier-Post,* Hannibal, Mo., Secretary-Treasurer O. K. Hammitt, *Monitor-Index,* Moberly, Mo.

National Association of Photo Lithographers — Netherland-Plaza Hotel, Cincinnati, Ohio, Sept. 15, 16, 17, 18, 1948. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

National Graphic Arts Education Association—Byron G. Culver, president; Fred J. Hartman, educational director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Printing Equipment Association, Inc. — James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference—President, Wm. F. Madden, Composing Room Supt., Worcester, (Mass.) *Telegram-Gazette.* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

New Jersey Press Association Mechanical Conference—1948 Conference tentatively to be held in Atlantic City, N. J., in June. Hotel and date to be announced later. President Neal E. Dyer, Mechanical Supt., Camden (N.J.) *Courier-Post.*

Northwest Mechanical Conference — Hotel St. Paul, St. Paul, Minn., Feb. 14, 15, 16, 1948. President Charles N. Bertram, Pressroom Supt., St. Paul (Minn.) *Dispatch and Pioneer Press.* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference — Fairmont Hotel, San Francisco, May 1, 2 and 3, 1948. President J. W. Fitzsimmons, San Francisco (Calif.) *Call-Bulletin;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News.*

PNPA Mechanical Conference — Benjamin Franklin Hotel, Philadelphia, Pa., April 9 and 10. William N. Hardy, Manager, PNPA, 209-213 Telegraph Bldg., Harrisburg, Penna.

Printing Industry of America — James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

SNPA (Eastern Div.) Mechanical Conference — Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference—Hotel Adolphus, Dallas, Tex., Feb. 16 and 17, 1948. Chairman, W. F. Thompson, Austin (Tex.) *American-Statesman.* Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Southwestern Photo-Engravers Association — Texas Hotel, Fort Worth, Tex., January 8, 9 and 10, 1948. President, R. C. Walker, Southwestern Engraving Co., World Bldg., Tulsa, Okla. Executive Secretary, Virginia Nichols, 3621 Country Club Circle, Fort Worth 4, Tex.

Hears Report About Research Progress

A report on its current research activities at Battelle Institute, Columbus, O., and election of new officers highlighted the second annual meeting of Photo-Engravers Research, Inc., held in Buffalo, N. Y., recently. The research report outlined the progress made by Photo-Engravers Research, Inc., during the past year and made recommendations to member firms for use in photo-engraving operations in their plants. Conditions of operation for the ferric-chloride etching of iron, tentative operating conditions for the electrolytic etching of copper, and a new dusting technique that will retain image area in the deep etching of copper were described. A new highlight evaluation method that is used as a research procedure and progress on an improved roll-up procedure were also reported.

Satisfaction with the results of their first two and a half years of research was expressed by the affiliate firms of the research agency, and it was decided to expand research activities at the beginning of the second three-year contract with Battelle.

Officers elected at the meeting included: President, David Orans, Quality Photo Engraving Co., New York; first vice president, Gene Maston, Capital City Printing Plate Co., Des Moines, Ia.; second vice president, Ralph Yeomans, Brigdens Ltd., Toronto, Can.; and secretary-treasurer, George Hoffman, Dixie Engraving Co., Savannah, Ga. The directors are: Marshall Respass, Respass Engraving Co., Jacksonville, Fla.; Everett Bierman, Charlotte Engraving Co., Charlotte, N. C.; George Anderson, Advertisers Engraving Co., Cincinnati, O.; Phillip Arenhold, Conde Nast Engraving Co., New York, N. Y.; and Walter Sterns, Sterns Engraving Co., Chicago, Ill.

President Orans appointed Mr. Arenhold chairman of the organization's Research Committee. E. B. Brooks, Wayne Color Plate Co., Dayton, O., was appointed chairman of the Membership Committee, and J. Homer Winkler, Battelle Institute, was appointed executive director.

Bennett Talks to Craftsmen

Paul A. Bennett, in charge of typographic layout with the Linotype Co., gave an illustrated talk on *Type Faces at Work* before Craftsmen's clubs in eleven different states in this country and Canada during a seven weeks' period which began October 3. Mr. Bennett's itinerary at the Craftsmen's clubs included Atlanta; Miami; Riverside, Calif. and other cities.

CORRECTION:

On page 55, October issue of *Printing Equipment Engineer,* under Composing Room Equipment Section of **Patents for the Graphic Arts Field,** there was a transposition of figures in Patent No. 2,395,659—Apparatus for Producing Justified Type Matter to Intertype Corporation. If our readers wish to order this patent from the Commissioner of Patents in Washington, D. C., please use No. 2,395,659 instead of 2,395,695 as it appeared in our patent report.

Patents

For The Graphic Arts Field

Covering patents issued September 16, September 23, September 30, and October 7.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

2,427,839. COLLATOR, for assembling sheet material such as calendar sheets, playing cards, pages of booklets and the like, may be used in connection with a folder, a stitcher, or other machine. A series of timed sheet feeders are arranged over a conveyor travelling in such relation to the delivery of the feeders that it receives one sheet (or sub-group of sheets) from each feeder in order, with each sheet upon the last fed by the next preceding feeder in the series so as to form identical groups of sheets. By preference, the sheets in each group are brought into register as they are gathered, and each group is checked or gauged to make sure that it includes all of the sheets that it should and no more than it should. Invented by William Ward Davidson, Evanston, Ill. Assigned to Davidson Manufacturing Corporation, Chicago, Ill. Application February 5, 1944. 22 claims.

Composing Room Equipment

During the four weeks covered by this report, no patents have issued for this heading.

Feeding, Folding and Delivery

2,427,892. CONTINUOUS WEB DRYING APPARATUS comprises a chamber and a series of upper and lower driven rollers supported at one end in a wall of the chamber and at the other end away from the end wall to provide a space. The rollers form a web into a continuous series of upper and lower loops, the web presenting outside and inside surfaces in its travel over the rollers. Radiant ribbon burners are disposed at spaced points about the arcs of the outside surface of the lower loop and near the inside surface of the upper loop. The loops have free communication with the space between the ends of the rollers and the chamber wall, permitting lateral escape of vaporized material to the chamber. Hot-air ducts are provided which blow air against both sides of the loops and a fan withdraws the moisture filled air from the chamber. Invented by Floyd W. Adams, Los Angeles, Calif. Assigned to Los Angeles Paper Box Factory, Los Angeles, Calif. Application October 16, 1944. 3 claims.

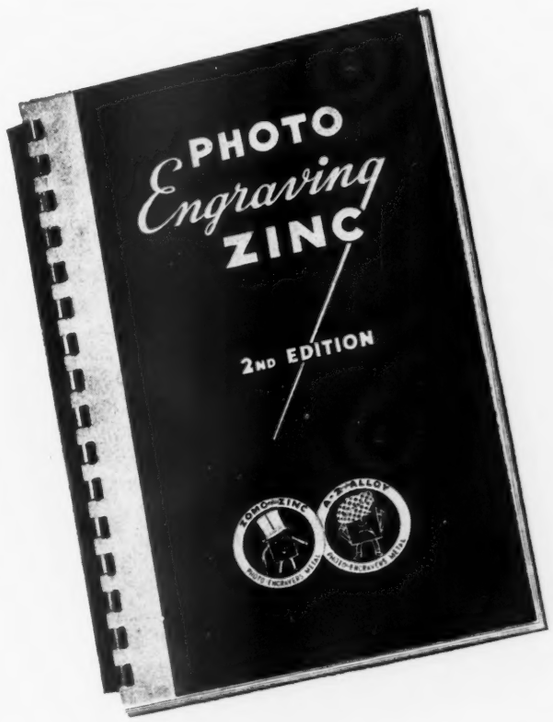
Plate Making

During the four weeks covered by this report, no patents have issued for this heading.

Printing Inks and Related Chemicals

2,427,995. SULFOFLUORIDES OF AZOIC DYESTUFFS are insoluble in water and may be used as pigments and for printing textiles, in which case an engraved copper roll is used. The dyestuffs have the formula $Ar-N-N-Ar^1-N=N-X$ in which Ar is a radical of the benzene series free from water solubilizing groups, Ar^1 is a para-arylene radical selected from the group consisting of the benzene and naphthalene series from water solubilizing groups, at least one of the benzene series radicals containing one sulfonyl fluoride group, and X is a residue of an ice color coupling component. The latter includes furoyl acetic acid, benzoyl acetic acid, etc. Before being printed with an engraved copper roll, textiles may be impregnated with the anilide of 2-hydroxy-3-naphthoic acid in an alkaline solution. Invented by Robert Prescott Parker, Somerville, and Corris Mabelle Hofmann, Bound Brook, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application July 31, 1944. 15 claims.

2,428,178. METHOD OF MAKING FINELY DIVIDED VOLATILIZED SILICA which is suitable as a base in printing inks, pigments and paints. In



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HERE is the latest authoritative book on photo engraving zinc . . . a fund of valuable information for every engraver.

It gives helpful hints for testing finishes and etching quality. Complete chapters are devoted to such subjects as Register, Etching Speed, Effects of Heat on Zinc, and Composition.

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ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

this process ordinary siliceous material is reacted with reducing agents at the relatively low temperature at which reduction to gaseous silicon monoxide occurs. The SiO gas is continuously removed from the reduction zone and usbjected to oxidizing conditions to reform solid SiO_2 therefrom. This is then separated and collected. The dioxide appears in this manner in an extremely fine state of subdivision. Invented by Richard Reik, Piedmont, and Alva C. Byrns, Los Altos, Calif. Assigned to The Permanente Metals Corporation, Oakland, Calif. Application July 18, 1944. 6 claims.

Printing Presses and Equipment

2,427,556. PRESS MECHANISM FOR INTAGLIO PLATE PRINTING does not require that large size gummed paper to be printed be first humidified. A pressure roller is surfaced with a packing sheet adhesively secured to a flexible metal strip which is mounted over the surface of the roller. Portions of the packing sheet which do not bear an impression made by the plate in a preliminary run are then cut away. Instead of causing a reciprocatory plate carrying plank to pass between an abutment and a D-roller designed to contact the printing plate during movement of the plank in one direction, the plate is brought to a predetermined location where it remains during the printing operation. This operation is effected by the pressure roller after making contact with an intermediate sheet of the medium to be printed against the plank or abutment, and through a translation of the roller relatively to the plate, the roller at the same time being positively rotated about its axis and applying the requisite pressure. Invented by Fernando Fernandez, Mexico City, Mexico. Unassigned. Application June 10, 1944. 10 claims.

2,427,904. ROTARY PRESS is designed for use in a general business office by employees who are not skilled in the art of printing. Printing couple of the press includes two cylinders for printing optionally either the top or bottom face of a sheet fed to the couple, the lower cylinder having a blanket for offset printing by which the under face of a sheet can be printed. Hence this lower cylinder of the couple may act either as an offset surface or a platen depending upon the type of plate used in the upper cylinder. A sheet is stripped from the couple at a point close to the couple when the top face of the sheet is printed, and stripped at a point half way around the cylinder when printed on its under side by offset printing. A deflector is positioned to insure passage of the sheet half way around when the bottom face of the sheet is printed even though the sheet does not adhere to the blanket to the second point of stripping. The sheets are thus stacked with their printed faces up, whether printed by direct or offset printing. Invented by William Ward Davidson, Evanston, Ill. Assigned to Davidson Manufacturing Corporation, Chicago, Ill. Original application May 5, 1939, divided and this application December 7, 1942. 5 claims.

2,428,263. TORSIONALLY OPERABLE PLATE CLAMP exerts resilient circumferential tension on the trailing or leading edges of a stereotype or other printing plate carried by a plate cylinder. The clamp takes the form of a torsion shaft which exerts force on the plate against the pull of a string, i. e., spring urged hooks carried in suitable recesses on the inside edge of the plate contact and grip hooks which are helically arranged around the operating shaft. Operating means for stressing the shaft with a predetermined torsional force include one stop against which the shaft is stressed after the hooks are brought into engagement with the other edge of the plate. Invented by Curtis S. Crafts, Oak Park, and Willard M. Pollock, Glen Ellyn, Ill. Assigned to The Goss Printing Company, Chicago, Ill. Application July 28, 1945. 14 claims.

2,428,428. MOUNTING AND REGISTERING OF PRINTING ELEMENTS FOR SMALL QUANTITY PRINTING. The invention relates to those printing operations in which printed matter is superimposed on other printed matter as, for example, where colored letters are printed in juxtaposition with previously printed black letters for advertising sign and poster work and the like. Invention is particularly useful in connection with rubber type carried on a cylinder. The sheet is fixed upon a transparent surface illuminated from one side. A flexible transparent base is arranged over the sheet so fixed, and in registry therewith. Flexible rubber printing sections are secured to the base by adhesion and in registration with spaces on the sheet in which it is desired to imprint. Base and printing sections are removed and secured to the printing roll of a printing press with the rubber type on the outside. In-

Baumé Hydrometer

MANUFACTURER'S directions for using certain lithographic chemicals usually specify solutions to be mixed to a definite density. Density is the measure of the amount of chemical dissolved in the liquid and is, therefore, an indication of strength.

Often it is sufficient to measure out the dry chemical and the water, but the hydrometer will check measurements after you mix the two. If the solution is permitted to stand for a time, there is chance for evaporation to increase the density. A moment's use of the hydrometer will again save mistakes.

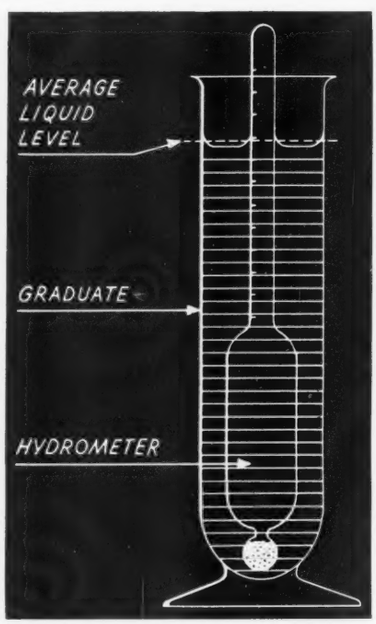
In the plate room, the efficiency of solutions depends upon proper strength. Whether it is directions on a box or your own formula that gives you just what you want, you can get the same results consistently by checking with a hydrometer. Use it for: Gum solutions, Coating solutions (Including final solutions) and Sensitizer Solutions.

In the darkroom, it is easy to tell when the hypo bath is overcharged with silver salts by using a hydrometer. The correct density appears in specially prepared tables published in most photographic texts.

A sample of the solution to be tested is poured into the graduate. The sides of the hydrometer should be free from bubbles. The entire solution should contain as few bubbles as possible.

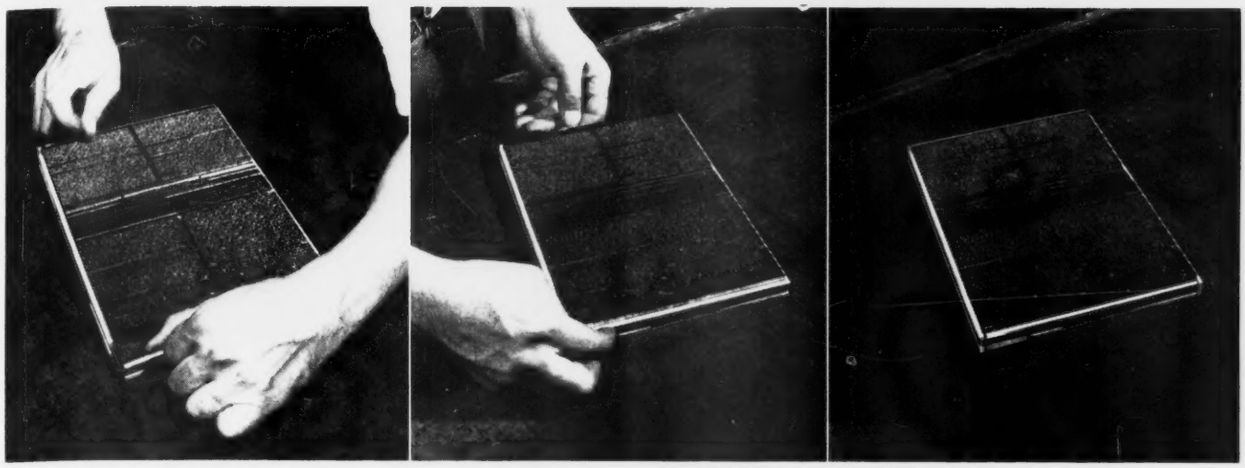
Directions for mixing chemicals usually give the temperature at which the solution is to be tested because density changes with temperature. Some hydrometers have thermometers attached which make it easy to check temperature. Be sure the liquid is at the correct temperature.

Hold the liquid level at your eye level and read the scale of the hydrometer at the average liquid level. —Published by courtesy of Harris-Seybold Co., from *Harris Impressions*.



An Hydrometer is a hollow glass bulb with both ends sealed. Since one end is weighted, it will float upright in a liquid. The depth at which the bulb floats depends upon the density of the solution. Density values are read at the liquid level on the graduations along the tube.

PULL PUSH AND IT'S TIED!



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INDIANAPOLIS 4, INDIANA

TYPE METAL REMELTING FURNACES

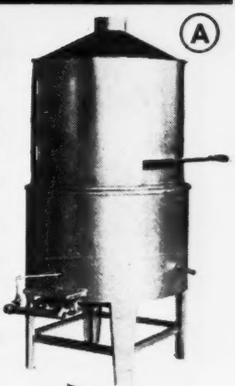
(A) 'Surface' Type Metal Remelting Furnace equipped with Atmospheric Burner and hood. Available in capacities up to 2500 pounds of metal.

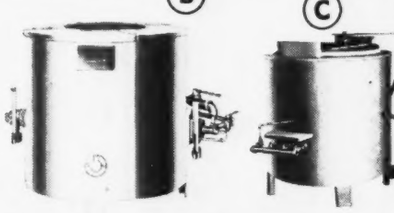
(B) 'Surface' Type Metal Remelting Furnace equipped with Pressure Burner. Available in capacities up to 3200 pounds of metal.

(C) Furnace equipped with atmospheric burner and bottom outlet.

(All types can be equipped with hood)

'Surface' Gas-Fired Furnaces for type metal remelting are designed to provide the industry with an efficient, rapid remelting furnace of long life.





WRITE FOR BULLETIN SC-130

2634A

'Surface' Standard Rated FURNACES

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

vented by William L. McCarter, Hanford, Calif. One-half assigned to C. H. Farrington, Portland, Oregon. Substituted for abandoned application September 23, 1939. This application November 9, 1942. 5 claims.

2,528,567. DRIVE SYSTEM includes an electric motor control for apparatus in which a machine part is to be driven in a given fixed or adjustable relation to another driven machine part; or a master drive and a helper drive set-up. Printing presses, as well as rolling mills, are examples of applications. A helper drive system is provided which permits operating the helper drive motor to a large extent by energy taken from the variable voltage system of a master drive to whose speed that of the helper drive motor is to be correlated. This is accomplished by a speed controlling main load circuit of adjustable voltage and a second load circuit connecting the helper drive motor with the main circuit. The second load circuit is rated for providing full energization for the motor, a regulating generator, with an armature series connected in the second circuit, imposes corrective energization on the circuit. Generator has a self-energizing voltage sustaining field winding and two oppositely acting and balanceable field windings, one being connected with the second circuit so as to be excited in dependence upon energization of the motor. By this arrangement the control of the helped drive is simplified. Invented by Walter R. Harris, Wilkinsburg, and Rest R. Baker, Pittsburgh, Pa. Assigned to Westinghouse Electric Corporation, East Pittsburgh, Pa. Application November 10, 1944. 9 claims.

behind Burgess Quality

Automatic controls, laboratory tests and inspections are employed during every step of the manufacture of Burgess Chrome Mats. Final proof of Burgess quality, however, lies in the ability of these mats to do what the stereotyper demands . . . to do it well every time.

A Laboratory Product BURGESS Chrome MATS

That's why final proof depends on performance under working conditions and that's why sample mats are given a shop test before approval. The forms used are tough ones, as tough as any in actual use. Satisfactory performance on the mat press is part of the proof "behind Burgess quality."

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT, ILLINOIS
Pacific Coast Representative RALPH LEBER CO., 426 Polson Bldg., SEATTLE, WASH.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

BOOKS
RECEIVED

Newspaper Designing

IT is difficult to imagine a more complete treatise upon the subject of newspaper designing (makeup) than is contained in the new book *Newspaper Designing*, by John E. Allen published posthumously by Harper & Bros. Contained in the well illustrated book are in excess of 478 pages.

The book is divided into two parts. In the first part is contained a comprehensive survey of the historic background of the newspaper. Discussed also are the fundamentals of newspaper design. The author gets away to a good start early in the book (Chapter 4) by discussing *Makeup Limitations*. In this chapter he apprises the novice with many preconceived ideas as to what can and what cannot be done with newspaper makeup. Subsequently, however, Mr. Allen discusses in detail throughout the book just what can be done to make up an attractive newspaper page. He also calls attention to the limitations (or should we say the requirements) of newspaper manufacture imposed by editorial, advertising and production speed, the stereotyping process, paper and ink. Having gotten the reader in the right frame of mind, we feel the author handles the subject masterfully.

In the first section are handled page size, news head selection, news body faces, spacing feature heads, illustrations and front-page makeup. The techniques of editorial, sports, financial, radio and other special pages are treated. Also included in Part 1 is a discussion on advertisement placing and display and the various process of reproduction.

In Part 2 recent trends and achievements of news presentation are interpreted. Typical examples of faulty heads and what to avoid in writing them are presented. Modern treatment of front pages, as well as pages in the modern tabloid are illustrated and discussed.

All in all, the book should be of value to production and mechanical executives interested in the "clean" appearance of the pages of their papers. Primarily, of course, the book was written for newspaper editorial and management execu-

WHEN YOU NEED . . .

Cut Cement and Rubber Rolls

—You will find that you can do better by ordering these two indispensable composing room items from the E. A. Booth Rubber Company.

BOOTH'S ZINK CUT CEMENT

This cement is a time saver—it mounts cuts quicker—and it eliminates the risk of out-of-position cuts. A favorite in hundreds of composing rooms—it is reliable, sets quickly, holds fast. You will like the handy tube dispenser for the fastest cut mounting method known. Place your reliance in Booth Zink Cut Cement.

PRICES: In the United States:
75c per tube, $6.00 a dozen tubes.
$5.00 a dozen in gross lots.

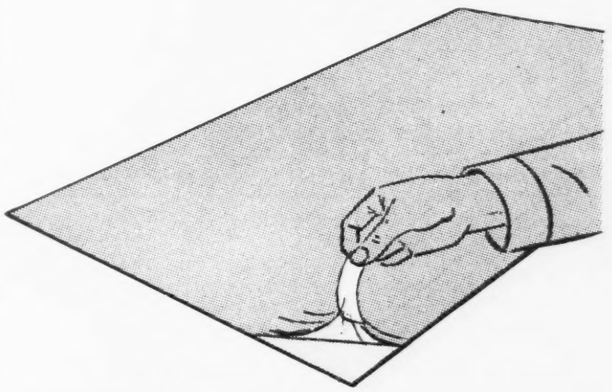
BOOTH'S BLACK RUBBER ROLLS

Line casting machine operators everywhere will tell you that Booth's Black Rubber Rolls are smooth, sweet running, highly responsive, provide maximum cam tread friction. One way to find out why they are so popular is to try them now.

PRICES: $1.45 per pair
$7.75 per dozen

E. A. Booth Rubber Co.

MAHONING BANK BUILDING
YOUNGSTOWN, OHIO



To remove Rediface, attach a small piece of adhesive tape or Scotch tape to corner of the plate on the Rediface surface . . . lift up and peel gently.

Imagine every piece of engraver's zinc you use being as clean and perfect as the day it was made! That is true in plants using Imperial Zinc coated with the new surface-sealing film Rediface. This new protection against dirt, dust and grease sticks tight to the sheet until you want it off—then it comes clean, as slick as a whistle. A partial sheet can stay in the bin for months—and still present a spotless, grime-free base for the enamel.

Rediface is furnished on Imperial Zinc at no extra cost, so when you need engraver's zinc, be sure and specify Imperial Zinc.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

Philadelphia 34 New York 7 Chicago 50

Imperial ZINC

tives and may well be used by journalism schools.

Newspaper Designing—By John E. Allen, Editor of the *Linotype News*. Size, 6¼ in. by 9⅝ in.; 487 pages; over 250 illustrations; bound in blue crash cloth; silver stamping. Published by Harper & Bros., 49 East 33rd St., New York 16, New York. Price, $6 per copy. Order direct from the publishing company.

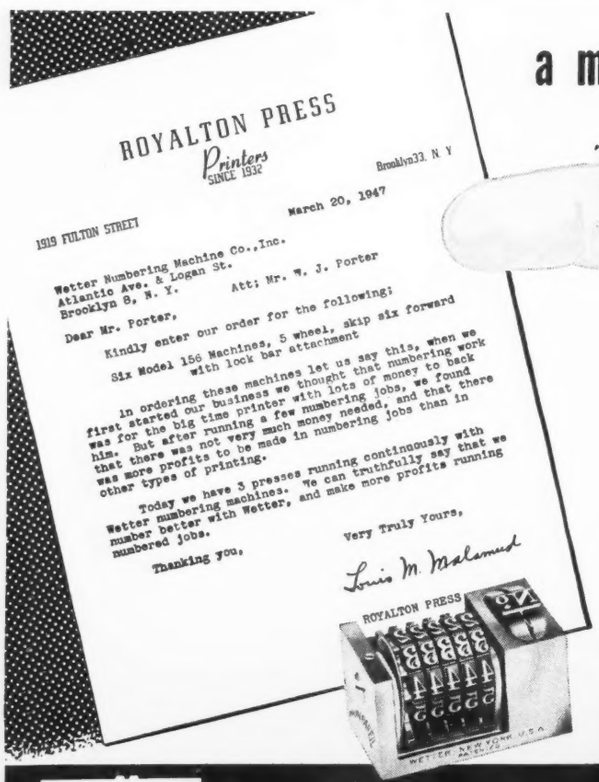
Industrial Electronics Maintenance

FOR a number of years now, the Graphic Arts Industry has been witnessing the development and introduction of electronic devices many of which are directly adaptable to the production operation of equipment. Among these are motor drives and controls, relays and measuring circuits, regulators, servo systems and automatic machinery controls, including electronic heating of various kinds.

The advent of these devices has created a demand for a reliable textbook upon the subject. *Printing Equipment Engineer* has arranged to handle among its other books, *Industrial Electronics Maintenance* by R. C. Roetger. The book is published by Prentice-Hall, Inc.

This book is entirely devoted to explanations of different types of electronic devices and their maintenance. In fact, Mr. Roetger states: "There are few good works useful to the plant electrician who wishes to widen his knowledge to include electronic apparatus, or to the trade school student preparing for service work." To which P-Double-E wishes to add the observation that mechanical executives will find this book informative

The Stereotype Chapel of the Evening Star Newspaper Co., Washington, D. C., presented Joseph M. Brown, stereotype foreman, with a watch to commemorate his 50th anniversary as a stereotyper at the *Star*. Mr. Brown was employed as an apprentice stereotyper on October 7, 1897. In 1933 he became stereotype foreman. In excellent health at age 76, he is looking forward to many more years of service with the job and the men who have kept him young in spirit.


ROYALTON PRESS
Printers
SINCE 1932
Brooklyn33, N. Y
1919 FULTON STREET
March 20, 1947
Wetter Numbering Machine Co.,Inc.
Atlantic Ave. & Logan St.
Brooklyn 8, N. Y.
Att; Mr. W. J. Porter
Dear Mr. Porter,
Kindly enter our order for the following:
Six Model 156 Machines, 5 wheel, skip six forward with lock bar attachment
In ordering these machines let us say this, when we first started our business we thought that numbering work was for the big time printer with lots of money to back him. But after running a few numbering jobs, we found that there was not very much money needed, and that there was more profits to be made in numbering jobs than in other types of printing.
Today we have 3 presses running continuously with Wetter numbering machines. We can truthfully say that we number better with Wetter, and make more profits running numbered jobs.
Thanking you,
Very Truly Yours,
Louis M. Malamud
ROYALTON PRESS

a money-making idea that works

This unsolicited letter tells a money-making story. It's a story that's *been told* many times before . . . a story smart printers *will tell* many times again.

Numbering is a profitable printing specialty that many printers overlook. Why not go after the business they're letting slip by? A small investment in a Wetter Numbering Machine or two will set you up to handle it. Wetter will gladly tell you about the many kinds of profitable numbered jobs and why Wetter machines number better.

Sorry, but the heavy accumulation of back orders still prevents putting new orders into immediate production. While every effort is being made to correct this condition it will be some time before Wetter can make the prompt deliveries to which users were once accustomed.

WETTER NONPARIEL . . . (One of Many Models)

2790

WETTER NUMBERING MACHINE CO. Atlantic Avenue & Logan Street, Brooklyn 8, N. Y.
SOLD BY ALL DEALERS AND BRANCHES OF A. T. F., INC.

Our Neck is Out

EVERYTIME YOU SHIP A DRUM

The Imperial Plus Metal which is shipped to you after we receive your dross, has to be the right alloy for your plant's requirements. That is why our neck is sticking out with every drum of dross you send to us. That Plus Metal must replace those vital elements skimmed off in the dross, in the exact proportions to bring your working supply into ideal condition for smooth, efficient operation. Imperial's Plus Plan works just that way. That is why we can say "as soon as the first pound of Imperial Type Metal enters a shop, Imperial assumes the unconditional responsibility for that metal's performance." Ask us about the Plus Plan.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

Philadelphia 34 **New York 7** **Chicago 50**

Imperial

TESTED and APPROVED!

The NEW "STAR" *Magazine Brush*

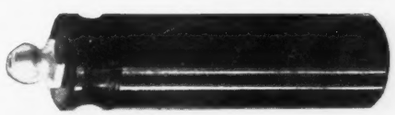
Part No. Z-52

Bristles of Heavy Nylon, it outlasts several of the ordinary brushes. Does a better cleaning job too.

AND

the GRIFFITH *Pot Cam Roll Pin*

Part No. B-67A



Equipped with an Alemite fitting. Feeds lubrication to bearings without removal from machine. A great time saver.

To be trouble-free, say: "ACE BELTS for me".

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CHICAGO • MINNEAPOLIS • DENVER

in case they wish to become familiar with electronic devices and maintenance even though their only job is to supervise such work.

The information in this book is developed by explanation of simple schematic circuits and diagrams, followed by detailed analyses of actual commercial circuits which have grown out of the fundamental principle.

Various chapter titles are as follows: Meaning of Maintenance, Principles of Maintenance, Fundamental Maintenance Procedure, Speaial equipment Required, Industrial Electronic Components; Rectifiers, Inverters, and Electronic Contactors; Audio-Frequency Amplifiers, Photoelectric Relays and Measuring Circuits, Motor Control, Welding Control, Regulators, Servo Systems, Automatic Machinery Control, Electronic Heating, Miscellaneous Industrial Apparatus, Appendices, Bibliography.

Industrial Electronics Maintenance—By R. C. Roetger. Size, 5½ in. by 8¼ in.; bound in blue crash cloth, gold stamped titles; 190 pages; well illustrated. Published by Prentice-Hall, Inc. Price $3.50 per copy plus 25c for postage and wrapping. Order direct from *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio. Because of limited handling margin please send cash with order.

Report on German Printing Ink Factories

Dr. Andries Voet, Research Director for the J. M. Huber Corp., exploded the myth of spectacular developments in the German ink-making industry.

Reporting the findings of his official investigation for the Department of Commerce to the American Ink Makers annual convention, Dr. Voet said that the past 12 years have been almost completely void of important German contributions to the printing ink industry.

Dr. Andries Voet, research director for J. M. Huber Corp., recently investigated German printing ink factories.

"The primary objective of this tour into Germany's major plants," said Dr. Voet, "was to expose to the United States ink industry the details of much publicized German processes. We found that since 1935 most research has been conducted by inexperienced girls, using obsolete equipment. What few developments there have been, were necessitated by a lack of raw materials and, although of interest, are now relatively insignificant."

Dr. Voet disclosed that one major reason for the lack of German progress was the system of secrecy pioneered by I. G. Farbenindustrie and followed by other companies in related fields. "As a result of this policy," he said, "the printing ink chemist was greatly handicapped and could not obtain freely, data that might have helped in his own research."

Another not generally known fact, with an important bearing on the German printing-ink industry was revealed by Dr. Voet. "In Germany," he said, "there have only been two publications with circulations exceeding the million mark. In consequence, many of our American developments have no parallel in that country."

Commenting on the recovery of the German ink-making industry in the United States and British zones, Dr. Voet said it had progressed far beyond expectations. "No factual information," he told convention members, "could be obtained on production at plants elsewhere in Germany."

"Of the well-known larger plants in the Russian Zone," Dr. Voet continued, "many have been declared State property and are operated for the benefit of the Russians by German personnel under Russian supervision. Others have been completely dismantled, crated and shipped to Russia."

In summarizing his report, Dr. Voet

FOR SALE

SCOTT COLOR PRESS

24-CYLINDER ARCH TYPE

SUPER-IMPOSED

12 YEARS OLD

★ The press is equipped to handle sixteen pages of comics in full color, and a thirty-two page tabloid magazine with eight pages in full color. Many other line-ups and color combinations may be had, depending on requirements.

★ All cylinders are reversible. Equipped with two folders and two stitchers. Four turning bars are located back of folders, and six in front of folders.

★ General Electric group drives with two 150 H.P. alternating current motors, and two 7/12 H.P. starting motors with control panel. Maximum speed is now 28,000 impressions per hour.

★ Equipped with three Cline paper reels, each of three-roll capacity, and electrically controlled with margin and rotation motor for each reel—each 1½ H.P., 250 volts, direct current. Jones tensions.

★ Measurements of press: Over-all length 74'. Over-all height 30'1". Height above floor 19'3". Below floor 10'10". Maximum printing width 72". Length of cut-off 22⅞". Thickness of stereotype plates 7/16".

AVAILABLE ABOUT FEBRUARY, 1948

LOS ANGELES TIMES

LOS ANGELES 53, CALIF.

to bedevilled printers

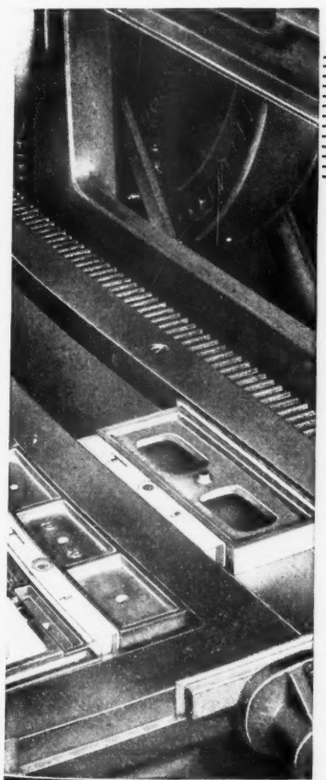
IF you are bedevilled by an ink problem, just remember Johnson Inks and their 143-year reputation for high quality. Then act accordingly —phone, wire or write.

CHARLES ENEU Johnson AND COMPANY

GOOD INKS SINCE 1804

10th and Lombard Streets • Philadelphia, Pa.

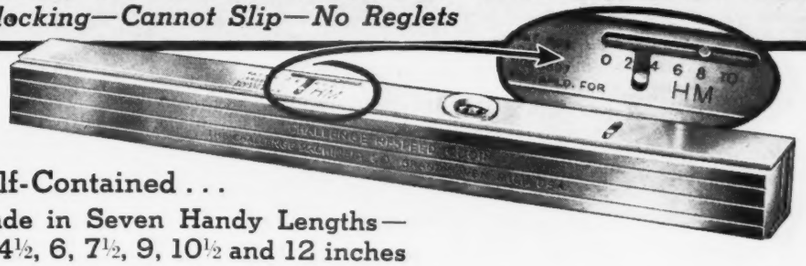
NEW YORK • CHICAGO • BOSTON • ST. LOUIS • CLEVELAND • DETROIT
BALTIMORE • KANSAS CITY • PITTSBURGH • ATLANTA • DALLAS



In the Form — On the Press Bed....

CHALLENGE *Hi-Speed* QUOINS

Save Time—Insure Accurate Register—Self-contained Unit Ready for Instant Use Anywhere—Direct Expansion—Self-locking—Cannot Slip—No Reglets



Self-Contained . . .

Made in Seven Handy Lengths— 3, 4½, 6, 7½, 9, 10½ and 12 inches

● The CHALLENGE HI-SPEED QUOIN adds a new thrill to lock-up. You will be amazed at the speed and accuracy with which the job can be done. You save 70% to 80% on lock-up time because:—(1) they are self-contained units, ready for instant use; (2) two Challenge Hi-Speed Quoins do the work of 4 to 8 ordinary quoins; (3) quoin is always parallel with the form and locks true for its entire length thereby providing square lock-up; and (4) "always clear" register indicator allows unlocking and relocking for changes in less time and always in exact register.

Challenge Hi-Speed Quoins are absolutely different than any other quoin. Made of the finest steel rust-proof plated for long service. The extra heavy racks in Challenge Hi-Speed Quoins are of special quality tool steel—four times as strong as the fine steel used in chases.

WRITE FOR COMPLETE DATA TODAY!

594

Challenge

THE CHALLENGE MACHINERY COMPANY

"Over Fifty Years in the Service of the Graphic Arts"

MAIN OFFICE AND FACTORY: — GRAND HAVEN, MICHIGAN

Printing Profits from Planning

Profits and progress inevitably result from carefully detailed planning and experienced engineering, as proved conclusively by our thirty years devoted to the development of dividend-earning procedures for leaders in the graphic arts industries.

Whether you need a new plant or rehabilitation and modernization of present facilities, our complete analysis and factual report will define your needs.

ASK OUR CLIENTS ABOUT US . . . ASK US ABOUT OUR CLIENTS

MORTON L. PEREIRA and Associates
Engineers • Architects
100 West Monroe Building
Chicago 3

disclosed that the printing-ink production in the western zones of Germany is now at about 40 per cent of its pre-war level, only hampered by lack of raw material, not by production facilities. Of this, 90% is produced by five plants in the United States and British zones.

Executive ¶s

(Continued from page 21)

Litho Club and the Chicago Club of Printing House Craftsmen. He is an honorary member of the Printing Supply Salesmen's Guild of Chicago, a member of the Old Time Printers of Chicago Assoc. and a director of the National Association of Photo-Lithographers. He attended the University of Illinois where he studied industrial administration.

A. J. Weinsheimer, president and chairman of the board of Magill-Weinsheimer Co., Chicago, announced the appointment of Robert A. Ritter to the position of executive vice-president of the Company. In his new capacity Mr. Ritter will assist the president in all phases of the company's operations and in activating a functional organizational plan which has been under consideration for some time. The appointment is effective immediately but Mr. Ritter will divide his time between New York and Chicago until he can close his New York office where for the past two years he has provided management and production counsel to the printing industry. In 1939 Mr. Ritter was appointed assistant comptroller of the Government Printing Office and took an active part under Public Printer A. E. Giegengack in modernizing the policies, management and methods of the Federal printing facilities. During the recent war he served the Government as Assistant to the Public Printer in charge of all production planning.

John G. Benson, a veteran of World War II and a graduate of Cornell University, has joined the staff of Battelle Institute, Columbus, O., where he will be engaged in research in Graphic Arts technology. Mr. Benson was formerly a chemist for the St. Regis Paper Co., Oswego, N. Y. He is a member of the American Chemical Society.

M. C. McDougald recently joined Intertype's sales organization as representative in Oregon and parts of Washington and Idaho. He began his career in the Conger Printing and Lithographing Co. in Portland, Ore. He later worked on several newspapers where he became familiar with maintenance and operation of line-composing machines. Mr. Mc-

M. C. McDougald, Intertype Corp.'s sales representative in the Northwest.

HOW TO ADJUST
WORK-UPS

By Wm. H. Lichter and Geo. F. Smalley

This 24-page booklet analyzes causes of work-ups and gives proper procedure for locking up forms.

PRICE $1.00 CASH WITH ORDER

PRINTING EQUIPMENT *Engineer*
1276 West Third Street, Cleveland 13, Ohio

ENGINEERING FOR THE PRINTER & PUBLISHER

New Buildings . . . Modernization
Alterations . . . Surveys

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508 ERIE BLDG., CLEVELAND 15, OHIO
Division of Maier & Walsh and Dickerson
ARCHITECT-ENGINEERS

Acraplate

increases plant capacity

Nearly two hundred Acraplates in progressive plants throughout the United States and Canada have proven that rubber printing plates made on the Acraplate can increase plant capacity in these specific ways...

- Eliminate the profitless investment and costly storage of standing forms. Resinous matrices can be stored indefinitely in 1/4 the space and weigh only about 1/30 as much.
- Permit many more jobs to be run in multiple with resultant saving in press time.
- Yield definite saving in ink and make-ready costs ...often permit higher press speeds.
- Sheets lie flat after printing due to extremely light impression and elimination of embossing, thereby speeding up gathering and jogging.

Take advantage of these and other proven Acraplate benefits. Write for detailed facts about the complete range of models available...how they operate...what they have accomplished for others...what they can do for you.

LAKE ERIE ENGINEERING CORPORATION
568 Woodward Ave., Buffalo 17, N. Y.
Offices in Principal Cities and Foreign Countries

LAKE ERIE
ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

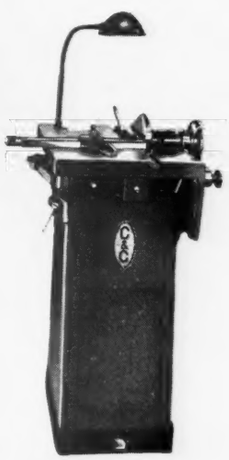
Leading manufacturer of hydraulic presses—all sizes and types—stereotyping...plastic molding...processing...rubber vulcanizing...metal working...forging...metal extrusion...special purpose.

Special To...

NEWSPAPER COMPOSING ROOM SUPERINTENDENTS

You are now in the midst of the heavy lineage season — C & G Model 3-A Saw Trimmers in your composing room would be a big help.

Listed below are a few newspapers to whom we have shipped new Model 3-A Saw Trimmers recently, and the number of machines they now have. We can help you. Why not drop us a line.



New Orleans Times Pecayune	(8)
St. Louis Globe Democrat	(14)
St. Louis Post Dispatch	(12)
Indianapolis Star	(9)
New York Times	(13)
Cleveland Plain Dealer	(8)
Milwaukee Journal	(13)
Fort Wayne Journal Gazette	(8)
Fort Wayne News Sentinel	(4)
Dallas Times Herald	(6)

The MORRISON Company
(Formerly Milwaukee Saw Trimmer Co.)
125 WEST MELVINA STREET • MILWAUKEE 12, WISCONSIN

Dougald served with the Corps of Engineers in the South Pacific for three years.

H. M. Shank, Boston branch manager of the service-sales division of Timken Roller Bearing Co. since 1938, has been appointed Detroit branch manager, it was announced recently. Frank M. Barry, formerly a field representative in the New York office, has been made manager of the Boston branch office.

H. C. Edwards, chief engineer of research and development of the Timken Roller Bearing Co., has been appointed director of research and development to succeed J. F. Leahy. Mr. Leahy retired after 45 years of service. Walter F. Green, assistant manager of research and development will become manager of research and development. Mr. Edwards joined the Timken Company in 1935 as chief engineer of diesel fuel injection equipment. He is a member of Sigma Tau, honorary engineering society, and Sigma Xi, scientific society. Mr. Green came to the company in 1935, where he was employed in the experimental department.

Wins Sweepstakes Award

Frank Hutchinson, executive secretary of the New Jersey Press Association, announced recently that the Camden (N. J.) *Evening Courier* had won the sweepstakes award as New Jersey's most outstanding newspaper. The Newspaper Institute of Rutgers University has been giving the award for 26 years.

The *Evening Courier* also was adjudged first for the excellence of its editorial page, with the Elizabeth *Daily Journal*, second, and the *Morning Post*, third. The sweepstakes trophy was accepted for the *Evening Courier* by Harold A. Stretch, president and publisher, and by Frank H. Ryan, editor-in-chief. Present was Neal E. Dyer, mechanical superintendent.

Stretch, former advertising manager for the Philadelphia *Inquirer*, acquired control of the Courier Post Newspapers in May of this year.

Photo-Engravers' Convention

(Continued from Page 34)

nounced by Walter S. Marx, Jr. in the February, 1942 issue (pp. 14-16) of *Printing Equipment Engineer*. The mentioned screens are copies from Levy rulings, but are prepared either by dye coupling or other special photographic operations. The Duplex and Chromatic screens embody a formation (ruling) of colored lines, the formation aiding in the production of highlight negatives when halftone originals are exposed through proper color filters in the camera lens.

Metals

Photo-engraving metals formed the exhibits of the Atlantic Zinc Works; the Edes Manufacturing Co. and Imperial Type Metal Co. Nothing particularly new was offered in the nature of zinc and copper for relief etching, but zinc sheets are now covered with a thin film-like coating of plastic; the coating protects against corrosion and atmospheric influence during storage of the polished zinc plates, and is peeled off the metal just before use.

Magnesium continues to attract interest as a zinc substitute, chiefly because of its lighter weight and faster etching properties. The recently introduced Perry-Higgins procedure (see pp. 68-70, Aug. 1947, *Printing Equipment Engineer*) of etching text matter and illustrations as an integral unit on a single sheet of metal employs magnesium alloys, and newspaper printing is performed directly from the etched plates. It should, however, be pointed out that newsprinting from relief etchings was performed some years ago (1938-1942) by the Alltone and kindred processes, and that the only innovation in the Perry-Higgins procedure is the use of magnesium instead of zinc plates.

The light weight of magnesium has caused it to be employed for patent bases and plate mounts, materials of this type shown by the Wesel Manufacturing Co. The difference in weight between steel and magnesium base of identical

tags
20 STOCK COLORS IN A DOZEN GRADES AND WEIGHTS
PLAIN TAGS made single, gangs, continuous strips; brass eyelets, numbers, perforations; slits, scoring, holes and slots.
PRINTED TAGS in one or more colors, one or both sides; numbered, with strings, wires, hooks, barbs or deadlock fasteners attached; or separate.
ALL SIZES: standard, special or oversized in manila, sulphite, jute, rope, cloth.
DIE-CUT TAGS, printed in multiple colors, strung, packed in plain boxes.
STOCK AND SPECIALTY TAGS:
SOLD TAGS
REPAIR TAGS
BAGGAGE TAGS
MARKING TAGS
NUMBERED TAGS
SHIPPING TAGS
ALTERATION TAGS
PRODUCTION TAGS
STRING PRICE TAGS
SPECIAL SALE TAGS
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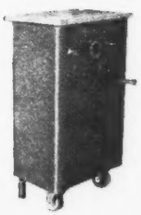

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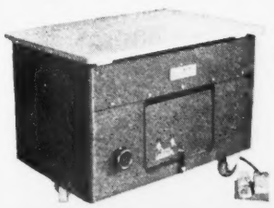

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dimensions was quite remarkable, and augurs for less physical exertion in composing and pressrooms.

Our discussion of equipment and materials can be terminated by mention of the modern proof presses exhibited by Vandercook & Sons, Inc., especially the No. 604 four-color high-speed press, wherewith a four-color proof can be obtained within 3 sec. between the first and last color. Gutenberg, Caxton and other printing pioneers probably would rub their eyes in sheer amazement on seeing such presses in operation.

Heavy Technical Program

Some 37 lectures on a wide variety of topics were delivered during the three-day convention, but bare mention can be made only of those devoted to technical subjects. Photo-engraving research was the topic of Everett Bierman. His remarks were supplemented by J. Homer Winkler, who provided data on the research lately conducted by Battelle Memorial Institute on the etching properties of ferric (iron) chlorid.

Establishment of the Josey School of Photo-Engraving by the Sam Houston Teachers College (Huntsville, Tex.) was the topic of James M. Roebuck, a director of the College. The utility and scope of the Luxometer Exposure Control was discussed by Morris R. Ost, president of the concern manufacturing the instrument, and details on a new proportional rule for scaling copies were given by Harold Finkle, vice president of Empco Mfg. Co., a subsidiary of Ost's firm.

Highlight Negatives

Halftone photography and the production of highlight negatives was dealt with by Harry M. Crosby (president, Eastern Graphic Arts Supply); Frank P. Adams (president, Kemart Corporation); Walter S. Marx, Jr. (vice president, Printing Arts Research Laboratory); and Meyer A. Shapiro (national representative, Duplex Screen Corp., a subsidiary of Moore Laboratories).

Color Reproduction

Color reproduction was the topic of several speakers. Harvey T. Holsapple (technical representative, Harold M. Pitman Co.) explained a method of color proving separation negatives by making photographic dye images on stripfilm. Color correction was considered by Everett R. Eaton (manager, Magazine Photo-Engraving Corp.); Ira J. Hoffman (Eastman Kodak Co.); Frank A. Sportelli (vice president, International Color Gravure); Albert R. Bourges (president, Bourges Service, Inc.); and Robert C. Kroll.

Printing from Plates

Newsprinting from etchings on metal tubes was predicted by William C. Huebner (Huebner Laboratories), and the practicability of page etchings on magnesium was stressed by H. E. Swayze, research and development engineer of the Dow Chemical Co. Related to this subject were the remarks of W. Roy Manny (president, Atlantic Zinc Works) on the potentiality of photo-typesetting machines as a means of type composition for etched newsplates.

Proper burning-in of prints on photo-engraving metals was outlined by A. J. Powers, Jr. (vice president, Chemco Photoproducts Co.); and Alfred E. Dirkman gave details on the utility of his Nu-Etch procedure of halftone etching.

Officers Elected

Turning now to the affairs of the Association, Joseph Rosenberg was unanimously re-elected president. Other officers elected were W. K. James as first vice president; Peter Schotanus as second vice president; with C. G. Rohrich re-elected as secretary-treasurer.

Chosen to fill Flader's position as commissioner was the Chicagoan, Frank J. Schreiber, who appears (left) in the accompanying picture, together with the president, Rosenberg (center) and Louis Flader (right). Schreiber has been secretary of the Chicago Photo-Engravers Association for a number of years, during which time he aided Flader and was tutored by the latter for the position which Schreiber will take over the first of the year. Flader will be retained as a consultant to the Association.

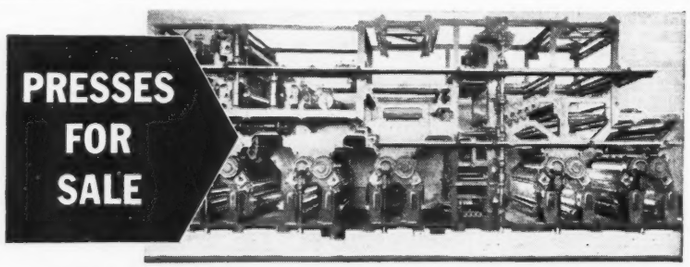
Flader Honored

The closing event of the convention was a dinner given by the Association in Flader's honor and at which laudatory remarks on his 35 years of service were made by the Association's president, Joseph Rosenberg; also by Augustus E. Giegengack, Public Printer of the United States; and by Edward J. Volz, President of the International Photo-Engravers' Union. Those attending the dinner were presented with a souvenir in the form of a beautiful dinner plate marking the Golden Anniversary of the Association, the plate bearing a portrait of Flader and an inscription commemorating his long service to the organization.

Bedford (Ind.) Times-Mail

(Continued from page 20)

been provided by the newspaper at the front of the building. It has its own entrance, its own toilet facilities, and a fully-equipped kitchenette for luncheons and refreshments, and also has possible use as basic equipment for a cooking school. In a community such as Bedford, there are civic organizations and activities that can make use of such accommodations. Such groups as the Red Cross, Farm Bureau, and many others frequently need space for small meetings. The room is tastefully decorated, and attractively furnished, and it is anticipated that much use will be made of it both by the public and the newspaper. Should the time come when more space



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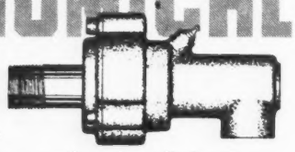

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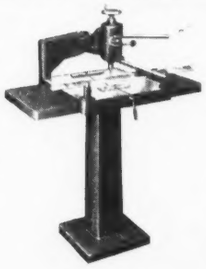

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The ceilings throughout the office area, including the Bedford Room, are acoustically treated. Acoustical material has also been used on the pressroom ceiling. That provision, plus the mastic isolation joint completely surrounding the press, keeps the noise level so low that it is scarcely discernible in the office area.

Cold Cathode Lighting

Lighting throughout the office and most of the mechanical plant is a cold cathode installation. This is one of the first newspaper plants of its size to be equipped with this type of lighting.

New Equipment Installed

A considerable amount of new equipment was installed, both in the office and mechanical sections of the building. New steel desks and comfortable chairs were installed throughout the offices. Counter height filing units were installed in the counter which defines the entrance area. The counter top is polished pink Minnesota granite while the counter front is covered with Flexwood. The press is a Goss Unitube 16 page press with foundations to accommodate an ultimate 24 page installation. The press drive and control equipment is by the Cline Electric Co. A new Goss matrix roller, new Goss metal furnace and plate-casting unit as well as plate-finisher were installed.

Construction work on the building was begun in June 1946. While certain minor items remained unfinished, the building was occupied over the weekend of June 28 and 29 and the editions of June 30 were delivered from the new plant.

"Times-Mail" Circulation

The net paid circulation of *The Daily Times-Mail*, on the basis of the ABC statement of September 30, 1946, is 7708. It serves a city zone having a population of 16,017 and a trading area of 46,392 population. Circulation is growing at a healthy rate, and on the basis of the above figures, plus the wholesome industrial growth of the community, there is ample justification for the provisions which have been made for growth and expansion.

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NPEA Session

(Continued from page 17)

ing in this issue of *Printing Equipment Engineer*.

Photo-Mechanical Questions

During the question and answer period, a number of questions submitted from the floor were answered by various men from the panel of experts. Some of the questions and answers are as follows:

John McMaster of the Graphic Arts Sales Div., Eastman Kodak Co., participated in the panel of experts and was assigned and answered a number of questions. Someone asked what sort of process lenses we might expect in the future. Mr. McMaster stated that we would probably see some new process camera optics in which various characteristics would be specifically designed for process photography. A lens meeting the necessary requirements would undoubtedly have built into it an aperture control together with the other features such as flatness of field, extreme definition together with the proper surface treatment of the lens element and the judicious baffling of lights in the interior of the barrel of the lens.

Another question passed to Mr. McMaster was related to the success of contact screens in the making of halftones. So far there has been very little application to photo-engraving, although there has been considerable success in photo-lithography. Contact screens so far appear to improve the sharpness of line and detail and to correct the rendering of tone which seems to be the bugaboo of present cross-line screens.

In response to a question related to masking, Mr. McMaster stated that various methods of masking are used with considerable amount of success in all branches of photo-mechanical reproduction. Some of the best methods were somewhat complicated to apply and therefore had to be a compromise in which we considered the ultimate in masking and the ease of operation on the part of the camera operator.

Questions About Ink

Theodore Rosevelt, GPI Div. of Sun Chemical Corp., Technical Director, Ink Development Laboratory, was one of those serving on the panel at the PIA convention in French Lick, Ind.

The first question passed to Mr. Rosevelt was as follows: *What is the present situation regarding the availability of printing inks?*

Answer: With very few exceptions the supply situation on all ingredients entering into printing ink manufacture is good. The resins, oils, solvents, pigments, and various compounds are coming in steadily. Two important exceptions to this picture should be noted. First, the shortage of titanium oxide continues and will probably remain until some time in 1949. This is an important constituent of whites for metal decorating. Second, Rhodamine Red is in short supply although this condition is expected to ease somewhat next year. This material is the prime coloring ingredient of offset process red. Fortunately, substitutes are available here which do a fairly satisfactory job, although at some expense of brilliance. In general, however, the supply situation is good and the forward picture encouraging.

What is the present status of the steam-setting type of printing ink? was the next question presented. A summary of Mr. Rosevelt's answer is as follows: Originally it was primarily intended to be the answer to the prayer of the food packaging printer for an ink free from the objectionable odors of conventional oxidizing oil inks. It is long since out of the experimental stage. It is widely used. Its use is steadily increasing. However, the fact that it is a rapid-drying ink under normal conditions and an instantaneously-drying ink when steam is applied to the printed sheet has aroused interest in fields other than food packaging. I feel the full possibilities of this class of ink have not been fully exploited.

Still in the development stage is the application of this class of ink for printing publications at present using heat-set inks with the attendant heaters of hot air, steam-heated drums, gas flames or combinations of these.

Mr. Rosevelt answered the question: *Is any work being done on newspaper inks to improve quality and to get away from standard types in use for so many years?*

Answer: The answer to this question is a definite, "Yes". It seemed for years that a sort of "psychological block" with respect to the cost of news ink prevented active investigations of methods of improving this class of ink. Fortunately, the quality of printing more and more seems to be the moving consideration even at higher cost per pound and a number of new developments are under active study. An article in the August issue of *The American Ink Maker* describes the use of the moisture-setting principle in eliminating first impression offset, preventing smearing, and effecting cleaner, sharper, printing. A development is under way in Canada using the heat-drying principle in news printing. In our laboratories other systems are under study. Certainly the use of color in newspapers is on the increase, a further attraction.

Miehle Motion Picture

A new sound motion picture in color, *Look to the Years Ahead*, has been produced for the Miehle Printing Press & Mfg. Co. The picture had its premiere showing at the Printing Industry of America Convention in French Lick, Ind. It will be made available for group showings throughout the country.

The picture tells the story of the modernization of a printing plant. The emphasis is on the importance of long range planning based on factual analysis of individual plant conditions.

Trade groups interested in seeing this picture can make arrangements through the Miehle Printing Press & Mfg. Co. or the company's local representative. The running time is approximately 30 min.

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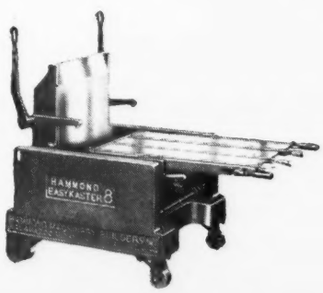
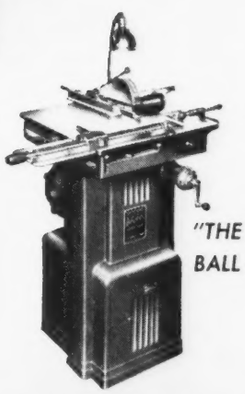
FAST, TOUGH and RUGGED! That's the Hammond EasyKaster "8". The 800 lb., valve-controlled melting pot which heats to pouring temperature in 45 minutes, coupled with Automatic Lock-up provides the fastest casting ever enjoyed on a flat caster. The rugged and heavy construction of the EasyKaster "8" is indicated by the weight — 1450 lbs., net, for the Model EK-8P with pot. Write for complete information, there's no obligation.

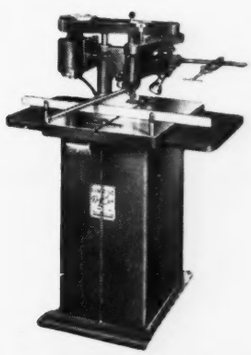


HAMMOND EASYKASTER "8"
MODEL EK-8



"THE SAW WITH THE BALL BEARING TABLE"

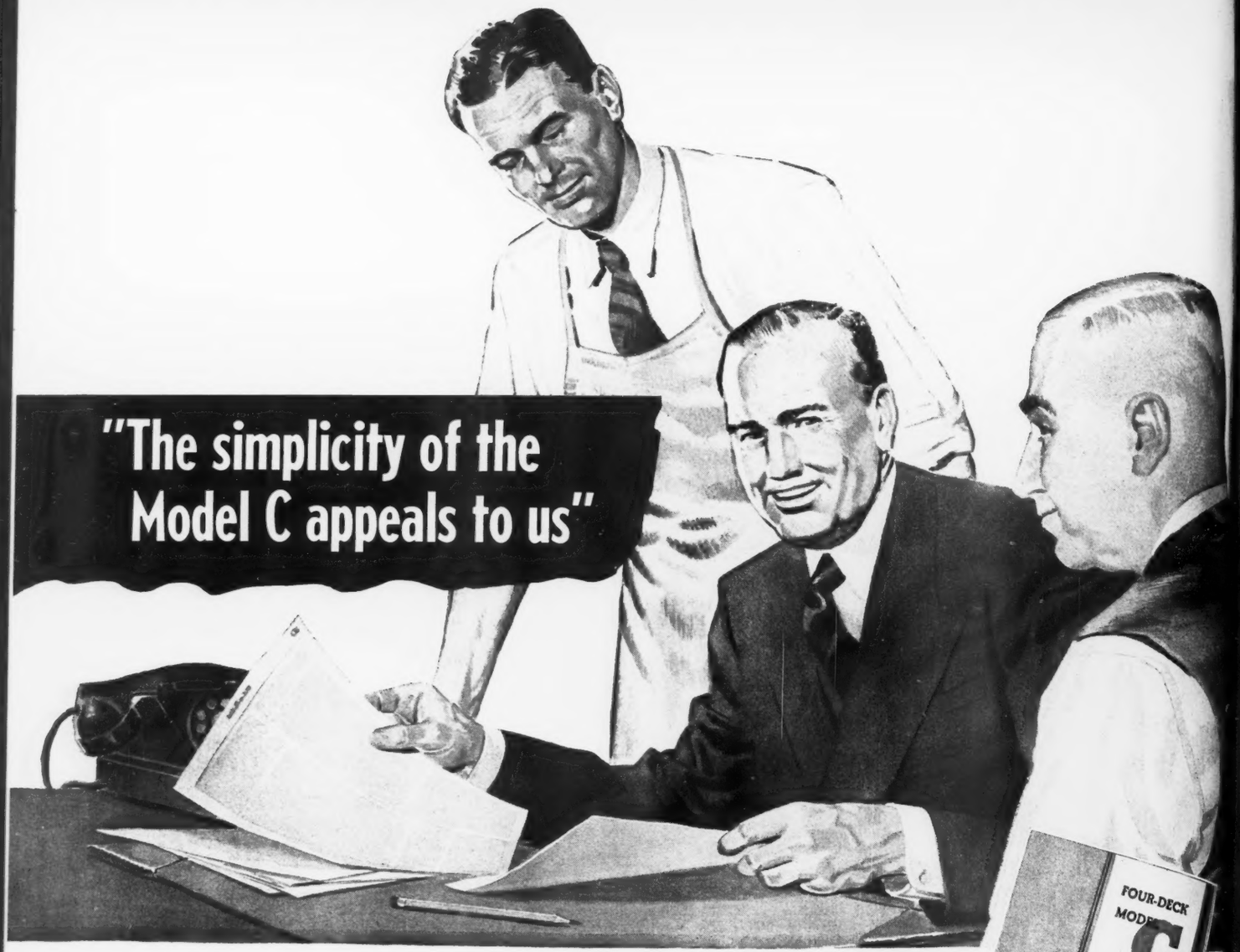
MODEL G-4
GLIDER TRIMOSAW



MODEL R-4 RADIAL ROUTER
REGULAR TYPE, CONSTANT SPEED MOTOR WITH BELTED DRIVE TO BALL BEARING SPINDLE

Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN



"Intertype Model C Machines are ideal for newspaper text and ad work—books and magazines, too.

"They knock out copy day after day...solid, accurate, clean slugs. We can count on our Model C's to put in a good day's work. They have fewer parts and are simply designed...less chance of their getting out of order.

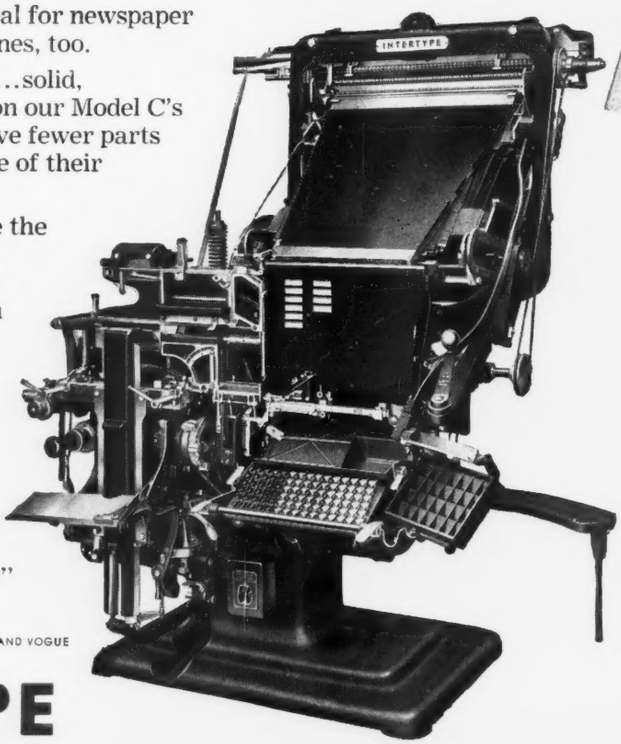
"A lot of little things count too...like the magazine shutters that open only when the magazines are in operating position, so the mats won't spill when we swing magazines.

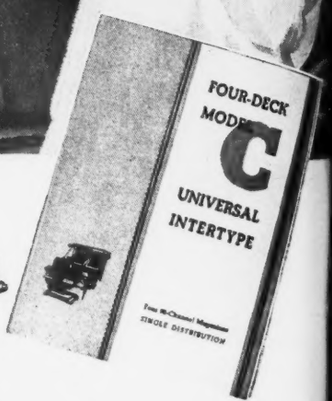
"The main magazines can carry up to 24 point condensed. With side magazines we can set up to normal-width 36 point.

"On top of dependable straight-matter performance, those extra advantages are gravy. That's why we're sold on our Model C Intertypes."

Look to Progressive Intertype

SET IN INTERTYPE REGAL AND VOGUE





The Model C Intertype is avail
in one, two, three or four-deck
els, without side magazines or
one, two, three or four 34-cha
side magazines. Write for Mod
Booklet.

Other Intertype Models

Model F Mixer...provides mat
from eight different magaz
each of which can carry two-l
mats. All are accessible to the
ator from his seat at the key
Intertype's finger-flip shift
makes mixing from adjacent
zines easy.

Model G Mixer...the "triple-
ice" Intertype...especially bui
headsetting, display ads and
classified. It is a wide-range d
machine and a fast straight-m
machine, all in one, and it c
equipped with 72 and 90-ch
main magazines in any combi
to meet your specific require

INTERTYPE

BROOKLYN 2, NEW YORK